London South Bank University

THE SHAREHOLDER WEALTH EFFECTS OF CORPORATE DIVESTITURES IN GERMANY, AUSTRIA AND SWITZERLAND

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Abstract

Compared to mergers and acquisitions (M&A), corporate divestitures receive only little attention by the public. Typically, information about big M&A deals dominates the business news; however, in recent years, corporate divestitures have become increasingly important as a means of corporate strategy. This development underlines the need for in-depth academic research in this field. Although there has been substantial research undertaken in the US and – to a lesser extent – recently also in Europe, the research about corporate divestitures has been widely neglected in Germany, Austria and Switzerland (the D-A-CH region).

This thesis, which is part of the capital market studies, investigates the shareholder value effects of corporate selloffs and spinoffs for Austrian, Swiss and German publicly traded companies during the period from 2000 to 2014. The research applies event study methodology, which rests on the assumption of efficient capital markets in the semi-strong form, i.e. shareholder value effects are evaluated based on unexpected changes in the market value of the seller immediately at the divestiture announcement. Moreover, the research identifies several factors influencing shareholder value creation. These factors are related to the divestiture transaction itself and the characteristics of the parties involved in such transactions.

The results confirm the findings of previous US and European studies and show that in the D-A-CH region corporate divestitures are creating shareholder value. The abnormal announcement returns in a two-day event window, including the day before the initial public announcement, as well as the actual day of the announcement, average 1.24% for selloffs and 1.92% for spinoffs. In addition, the research shows that the relative size of the transaction in particular, as well as an increase in the corporate focus through the transaction, the use of proceeds, the financial situation of the seller and the type of buyer, influence the magnitude of shareholder value creation. Corporate management should consider these factors prior to making decisions about divestitures.

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List of Abbreviations

A	Austria
AAR	Average Abnormal Return
AB	Aktiebolag
AG	Aktiengesellschaft
APT	Arbitrage Pricing Theory
AR	Abnormal Return
BEHG	Börsengesetz (Swiss Securities Trading Act)
BörseG	Börsengesetz (Austrian Securities Trading Act)
BV	Besloten vennootschap met beperkte aansprakelijkheid
c.f.	confer
CAAR	Cumulative Average Abnormal Return
CAPM	Capital Asset Pricing Model
CAR	Cumulative Abnormal Return
CEO	Chief Executive Officer
CH	Switzerland
Co	Company
Co.	Compangnie
Corp	Corporation
CUSIP	Committee on Uniform Security Identification Procedures
D-A-CH	Germany (D), Austria (A) and Switzerland (CH)
DAX	Deutscher Aktienindex
DIY	Do it yourself
e.g.	exempli gratia
EBO	Employee Buyout
ERTA	Economic Recovery Tax Act
et al.	et aliae
EUR	Euros
FIN	Finland
FR	France
FTSE	Financial Times Stock Exchange
GARCH	Generalized Autoregressive Conditional Heteroscedasticity
GER	Germany

GmbH	Gesellschaft mit beschränkter Haftung
Hldg	Holding
i.a.	inter alia
i.e.	id est
ICB	Industry Classification Benchmark
iid	independent and identically distributed
IMF	International Monetary Fund
Inc.	Incorporated
incl.	including
Intl.	International
IPO	Initial Public Offering
IT	Italy
JV	Joint Venture
KG	Komanditgesellschaft
KGaA	Kommanditgesellschaft auf Aktien
LBO	Leveraged Buyout
LLC	Limited Liability Company
M&A	Mergers and Acquisitions
MBI	Management Buy-in
MBO	Management Buyout
Mil	Million
n	Sample Size
NL	Netherlands
NO	Norway
NV	naamloze vennootschap
OLS	Ordinary Least Squares
OTC	Over the Counter
OTR	Off the Road
p.	Page
pp.	Pages
ROA	Return on Assets
S&P	Standard & Poor's
SA	Société Anonyme
SAAR	Standardised Average Abnormal Return

SAR	Standardised Abnormal Return
SAS	Société par actions simplifiée
SCAAR	Standardised Cumulative Average Abnormal Return
SCAR	Standardised Cumulative Abnormal Return
SE	Societas Europaea
SIC	Standard Industrial Classification
SP	Spain
Srl	Società a responsabilità limitata
Std. Dev.	Standard Deviation
SWE	Sweden
UK	United Kingdom
US	United States (of America)
VIF	Variance Inflation Factor
vs	versus
WpHG	Wertpapierhandelsgesetz (German Securities Trading Act)

1 Introduction

1.1 Research Aims

"Smart apple farmers routinely saw off dead and weakened branches to keep their trees healthy. Every year, they also cut back a number of vigorous limbs, those that are blocking light from the rest of the tree or otherwise hampering its growth. And, as the growing season progresses, they pick and discard some perfectly good apples, ensuring that the remaining fruit gets the energy needed to reach its full size and ripeness. Only through such careful, systematic pruning does an orchard produce its highest possible yield."

(Dranikoff et al., 2002, p. 75)

This allegory described by Dranikoff et al. (2002) can serve as an important message for corporations. Whereas most corporations dedicate plenty of their resources to corporate growth through mergers and acquisitions (M&A), the topic of corporate divestitures is still widely neglected. This imbalance can easily be illustrated: picking a random week and counting the number of M&A and divestiture cases that are important enough to be reported in business newspapers, the overwhelming majority of cases refer to mergers or acquisitions rather than divestitures, although the divesting side is necessarily a part of M&A transactions. The reason for this might be the stigma that still encumbers corporate divestitures, i.e. that divestitures are seen as signals of weakness or failure (Dranikoff et al., 2002). Huyett and Koller (2011, p. 2) argue in a similar way that investors may consider "[…] divestitures as admissions of failed strategy […]", but also add that managers may fear that divestitures may result in decreasing economies of scale, disadvantages concerning analyst coverage and damaged employee morale. The cause of this stigma could lie in the widely applied corporate practice: because of psychological biases, such as the sunk cost fallacy, managers often decide to divest an asset only if the outside pressure due to heavy losses, high debt burdens, downgraded credit ratings or negative analyst comments is already considerably high (Dranikoff et al., 2002; Horn et al., 2006). Sometimes, a new CEO is needed to finally exit certain businesses (Horn et al., 2006). Hence, divestitures are mostly the result of reactive rather than proactive corporate actions. As a consequence, the decision to divest an asset occurs rarely and often too late, which again may reinforce the stigma related to

corporate divestitures. Dranikoff et al. (2002) found that companies on average acquire 40% more businesses than they divest; Mankins et al. (2008) state that the majority of companies acquire three times more businesses than they divest. However, they also argue that this view on corporate divestitures is an expensive mistake and Huyett and Koller (2011) argue similarly, stating that not engaging in corporate divestitures may result in missed value-creating opportunities. Referring to the allegory of Dranikoff et al. (2002), this reasoning makes sense. The argumentation is to some extent related to the resource-based view, i.e. through divestitures of even healthy assets, a company's resources can be fully concentrated on the company's core businesses or those businesses where the company has a competitive advantage. By implication, assets that do not belong to a company's core, or that may have a higher value for another owner, should be divested. Based on this argumentation, corporate divestitures should be activities with a positive net present value.

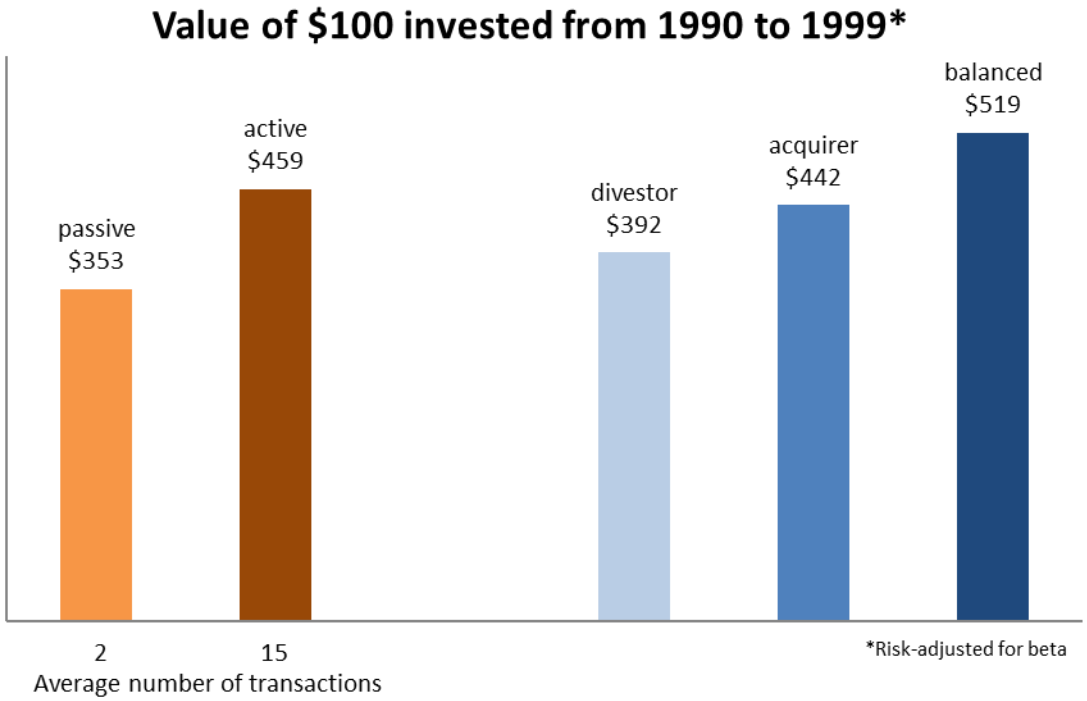

Figure 1: Benefits of Active Portfolio Management[1]

[1] Source: Dranikoff et al., 2002, p. 76.

This perception can be underpinned with empirical findings. Studying the performance of the 200 largest US corporations, Dranikoff et al. (2002), for example, found that managers that actively review a company's business portfolio obtain higher shareholder returns than passive managers. If one had invested $100 in January 1990, the investment would be worth $353 with a passive strategy and $459 with an active strategy by December 1999. Solely looking at the active managers, which is actually the more interesting point, the figures show that a balanced active portfolio management in particular, i.e. acquiring and divesting, pays off. A balanced acquisition and divestiture strategy leads to a return that exceeds the return of a divestiture or acquisition-only approach (see Figure 1). Mankins et al. (2008) report similar findings. They cite a study from Bain & Company with a sample of 7,135 divestitures by 742 companies between 1987 and 2007. According to this study, $100 invested in the average company in 1987 would have been worth $1,000 in 2007. In contrast, the same investment in the companies, which they describe as 'best divestors', would have yielded $1,800. The same can be observed when looking at stock indices in general. Also here, some stocks are taken out of the index from time to time whereas others taken in. The result is often an outperformance of indices towards actively managed investment portfolios, which leads to the rise of passive investment strategies. Beyond this evidence, a wide range of studies report positive shareholder value effects for corporate divestitures, especially for US and UK sellers (see Tables 3–6, pp. 21, 38, 47, 50).

During the last few years, the idea of shareholder value maximisation as the primary objective of corporations has been adopted more and more by corporations in the D-A-CH region (i.e. Germany (D), Austria (A) and Switzerland (CH)), although this approach has received some criticism lately with regard to its sustainability (short-termism, failures of risk management etc.) and to other stakeholders (especially to employees, the society and the natural environment) (Grant, 2016). The concept behind the shareholder value approach is that the success of listed corporations should be evaluated by the economic returns that a company generates for its shareholders (Rappaport, 1986). This shareholder value approach was developed by Rappaport (1986) because traditional accounting measures do not provide a reliable measure for the success of corporations. The shareholder value approach, which will also be used in this thesis as a measure for company performance, evaluates the value generated for shareholders looking at dividends plus increases in the share price of a company. The

dividends and the increases in the share price are determined by discounting the forecasted cash flows of a company by its cost of capital (Rappaport, 1986). The shareholder value approach implies that if corporate divestitures are shareholder value-creating corporate activities, divestitures should be viewed by companies as a viable strategic option rather than just an emergency option in times of crisis. Therefore, the question is whether corporate divestitures can serve as an instrument to create shareholder value.

Whereas there has been substantial research on corporate divestitures undertaken in the Anglo-Saxon countries, the D-A-CH region, one of the most important economic areas in the world, has been widely neglected. There are only a few German studies in the German language, but this subject is not covered in the Anglo-Saxon literature. Hence, this thesis will analyse the divestiture market in Germany, Austria and Switzerland and provide knowledge in a thus far largely unexplored field. In order to do so, the research investigates two main issues: first, the author will investigate if the positive performance impact of divestitures shown in the Anglo-Saxon studies also holds true for these countries, i.e. if corporate divestitures on average create shareholder value in the D-A-CH region. Second, the author intends to identify and assess which factors influence the performance of corporate divestitures positively or negatively. This research aims at a more detailed understanding of the sources of shareholder value creation in divestiture transactions in the D-A-CH region and to help policy makers make better corporate divestiture decisions, thus unlocking shareholder value potential that is currently lost through bad divestiture management.

The research is part of the capital market studies. Performance of corporate divestitures is evaluated based on changes in the market value of the seller immediately at the divestiture announcement using event study methodology. This research emerged 40 years ago in the US and recently found its way to Europe. For the German speaking market, as mentioned above, only a few studies exist and most of them are in the German language. The important German studies cover those of Löffler (2001), Eichinger (2001), Stienemann (2003), Bartsch (2005), Ostrowski (2007) and Vollmar (2014).

1.2 Structure of the Research

Following the introduction, *chapter two* introduces the topic of corporate divestitures. It provides an overview of the different forms of divestitures, including corresponding definitions, and describes the history of corporate divestitures together with the recent development in terms of deal numbers and value. Furthermore, the rationale for corporate divestitures and the theoretical framework for shareholder value creation are described briefly. The main attention, however, is focused on an exhaustive and critical literature review of studies analysing the shareholder wealth effects of divestitures.

Chapter three addresses the research questions and the development of the research hypotheses, which will be tested, and provides the theoretical framework for the expected outcomes of the research. The chapter structure is based on different research hypotheses.

Chapter four includes the research design and methodology. At the beginning, the author comments on the research philosophy, the approach to theory development and the research strategy. Subsequently, the data analysis, i.e. the event study methodology as the central element of the research in particular, is described in depth. Beyond that, the multivariate analysis, which constitutes the second step of the sequential analysis, is also defined, as well as the sample selection and data collection. The chapter concludes with a description of the variables used in the research analysis.

Chapter five covers the research results. As a first step, this includes an exhaustive description of the sample regarding the variables collected. In a second step, the event study results are reported and bivariate tests regarding the hypotheses formulated in chapter three are conducted. Finally, in order to validate the bivariate findings, multivariate tests are conducted and discussed.

Chapter six, the last chapter, summarises the main findings and addresses possible limitations and scope for future research.

2 Literature Review on Divestitures

The following chapter addresses the literature regarding corporate divestitures. First, section 2.1 provides an overview about the different forms of divestitures and corresponding definitions. Moreover, it describes the historical development of corporate divestitures as well as the recent development regarding deal numbers and value. Subsequently, section 2.2 highlights the different rationales for divestitures and section 2.3 looks at the theoretical framework, which serves as an explanation for shareholder value creation in divestiture transactions. Finally, section 2.4 provides an exhaustive literature review of studies analysing the shareholder wealth effects of divestitures, which aims at providing a full picture of the research undertaken in this field so far. The studies are ordered chronologically by economic region and form of divestiture.

2.1 Forms, Definitions and History of Divestitures

2.1.1 Forms and Definitions

The existing literature does not provide a broadly accepted definition of the term ‘divestiture’, often also referred to as ‘demerger’, since the term covers different forms – mainly selloffs, spinoffs, equity carve-outs and tracking stocks. In contrast to selloffs and spinoffs, where the parent company loses control of the divested business, it retains control in the case of equity carve-outs and tracking stocks (Figure 2). Because the last two categories rarely occur in the D-A-CH region, this thesis will focus on selloffs and spinoffs, i.e. the two forms where the divestor gives up control of the divested business.

According to Rosenfeld (1984, p. 1437), “A spinoff occurs when the firm distributes all of the common stock it owns in a controlled subsidiary to its existing shareholders, thereby creating a separate publicly-traded company.” Cusatis et al. (1993, p. 295) define a spinoff as the “[…] pro-rata distribution of shares of a wholly owned subsidiary to shareholders.” Hence, spinoffs can be regarded as a stock dividend to the parent firm’s shareholders.

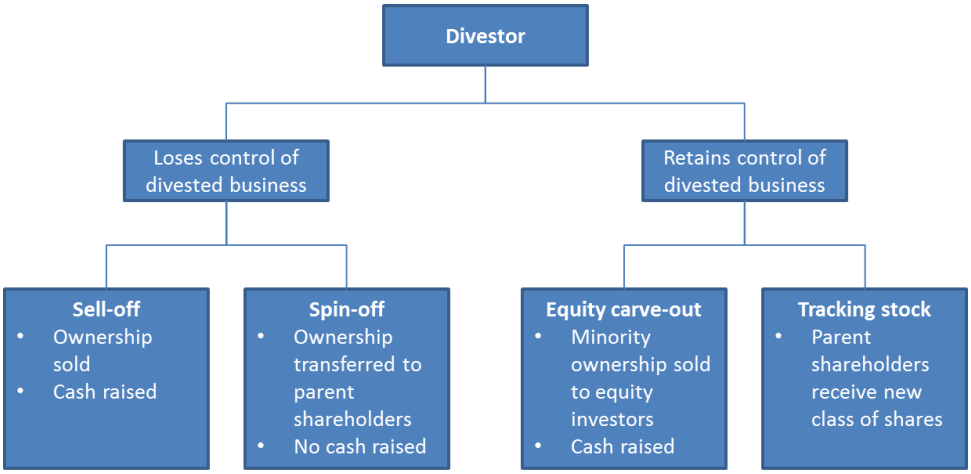

Figure 2: Types and Characteristics of Divestitures[2]

Again referring to Rosenfeld (1984, p. 1437), a selloff "[…] occurs when the divested assets are purchased and become part of another firm." Following Alexander et al. (1984) those assets include, for example, subsidiaries, divisions or a product line and generally can be paid in the form of cash or stock. Thus, in comparison to a spinoff, the latter form of divestiture is usually fully taxable and a change in ownership occurs.

In an equity carve-out, the parent company partially floats the subsidiary on the stock exchange but retains the majority control (Sudarsanam, 2010). The instrument for carving out the minority ownership is usually an initial public offering (IPO).

Tracking stocks represent a new class of shares that track the performance of a subsidiary. However, the shareholders of the tracking stock are not direct owners of the subsidiary but of the parent. Tracking stocks are chosen if the management wants to increase transparency and reduce a conglomerate discount, but does not want to lose any control over the subsidiary (Sudarsanam, 2010).

Other forms falling under the broad term of divestitures are, for example, buyouts, subsidiary IPOs, splitoffs, liquidations, or splitups. Buyouts constitute a special form of selloffs. They are either classified by the type of buyer (management buyout (MBO), management buy-in (MBI), employee buyout (EBO)), or by the financing of the deal (leveraged buyout (LBO)). In the case of a subsidiary IPO, the parent spins out the former subsidiary and sells it to the market via an initial public offering (Ostrowski,

[2] Source: Sudarsanam, 2010, p. 275.

2007). Hence, subsidiary IPOs are basically the same as equity carve-outs, but in this case, the parent has no control after the transaction as the subsidiary is divested completely. Splitoffs are similar to spinoffs. The difference between those two forms is that in splitoff transactions, the shares of the subsidiary are not distributed on a pro rata basis but only to those shareholders of the parent company that exchange shares of the parent for shares of the subsidiary (Ostrowski, 2007). In the case of liquidations, partial liquidations or splitups, the parent company ceases to exist. Whereas in liquidations, the assets of the parent are sold completely and the cash generated is paid out to the shareholders or creditors, the parent is split into two or more independent companies in splitup transactions and the shareholders get the shares of the new companies in exchange for shares in the parent company.

2.1.2 History of Divestitures

The market of corporate divestiture shows similarities to the M&A market – over time, several divestiture waves can be observed. The first single instances of divestitures occurred in the 1920s in the US where they became common since the 1950s onwards (Kirchmaier, 2003). In Europe, the divestiture landscape is more difficult to assess. Whereas in the UK they are an established instrument, divestitures are a relatively new phenomenon in continental Europe (Kirchmaier, 2003). Regarding the rarer form of spinoffs, Veld and Veld-Merkoulova (2004), who investigated the performance effects of European spinoffs, found that during the period from 1987 to 2000, the UK accounted for nearly half of all European spinoffs (102 of 230), whereas the D-A-CH region was presented with only 30 cases, even less than the Scandinavian countries with a lower economic importance. However, the study also reports increasing divestiture activity in continental Europe, which is also confirmed by Sudarsanam's (2010) research for the period after 2000.

For the analysed period of this thesis from 2000 to 2014, SDC Platinum[3] reports 32,180 announced divestitures of publicly traded European[4] parents from which 5,791 (18%) account for the D-A-CH region (Table 1). Looking at the deal values instead of the pure number, the proportion of the D-A-CH region is slightly higher with 21.07%.

Year	GER	A	CH	UK	SWE	FIN	NO	FR	IT	SP	NL	Total
2000	318	32	134	1,054	177	109	57	292	97	63	198	2,758
2001	292	22	138	858	169	102	67	279	113	50	184	2,502
2002	298	18	115	649	97	88	49	214	98	73	161	2,076
2003	299	12	149	795	114	71	69	243	107	83	157	2,342
2004	244	20	125	580	113	67	45	235	112	46	187	2,020
2005	278	22	93	539	114	56	43	193	112	49	163	1,888
2006	273	15	116	582	118	71	57	227	157	72	179	2,097
2007	287	22	112	623	157	76	56	241	122	75	161	2,229
2008	245	25	102	585	125	68	50	217	142	99	120	2,086
2009	235	32	94	570	113	53	73	226	91	96	120	2,047
2010	215	27	69	550	142	56	47	248	133	102	113	2,134
2011	199	31	101	498	107	80	68	277	76	134	109	2,109
2012	192	21	92	512	130	82	47	223	74	125	100	1,966
2013	203	28	96	471	122	72	50	227	74	119	90	1,943
2014	226	23	101	447	113	72	38	238	86	122	76	1,983
Total	3,804	350	1,637	9,313	1,911	1,123	816	3,580	1,594	1,308	2,118	32,180

Table 1: Announced European Divestitures 2000–2014[5]

Regarding the subsample of spinoffs, the picture is similar. SDC Platinum reports 448 announced spinoffs from which 67 (14.96%) occurred in the D-A-CH region. The shrinking share of UK spinoffs moreover depicts the increasing activity of continental European firms in corporate divestitures. Table 2 reports the spinoff cases in European countries between 2000 and 2014.

[3] The SDC (Securities Data Company) Platinum database provides detailed information about historical financial transactions, such as Mergers and Acquisitions. It contains over 900,000 worldwide M&A transactions since the 1970s and is backed by Thomson Reuters.
[4] Excluding Russia.
[5] Excluding Russia; source: Thomson Financial.

Year	GER	A	CH	UK	SWE	FIN	NO	FR	IT	SP	NL	Total
2000	8	1	4	14	3	6	3	2	5	1	1	54
2001	1		2	10	5		3		4			27
2002	1			5		1			1		1	9
2003	3			4	1	1	2		2	1	3	22
2004	2			6	4	3	2	1	2			35
2005	5	1	1	6	4	2		3	3		1	32
2006	5		2	14	7		1	2	3			41
2007	5	1		12	6		7	2	1		3	50
2008	4		2	8	2	1	1		6	1		31
2009	1		1	4				1	1	1	1	11
2010	1		1	5	5			1	3	2	2	22
2011	1		4	7	3	2	2	3	2	7	4	44
2012	2		1	3	5			1	1	1	1	18
2013	1		1	5	5	2	1	3				22
2014	2	1	2	6	3		2	3		2	2	30
Total	42	4	21	109	53	18	24	22	34	16	19	448

Table 2: Announced European Spinoffs 2000–2014[6]

The development of corporate divestitures, in terms of number of deals and deal value, illustrates the importance of divestiture research. As described by Sudarsanam (2010), despite some fluctuation, numbers and values are steadily increasing. Especially since the soaring increase in the year 2000, they remain on a relatively high level with an equally high volatility – Figure 3 for Selloffs and Figure 4 spinoffs show this development. The peaks prior to the bursting of the dot-com bubble at the beginning of the new millennium and prior to the Lehman crash in 2008 are particularly obviously identifiable. Both peaks are followed by a rapid decline in both deal value and number of deals.

[6] Excluding Russia; source: Thomson Financial.

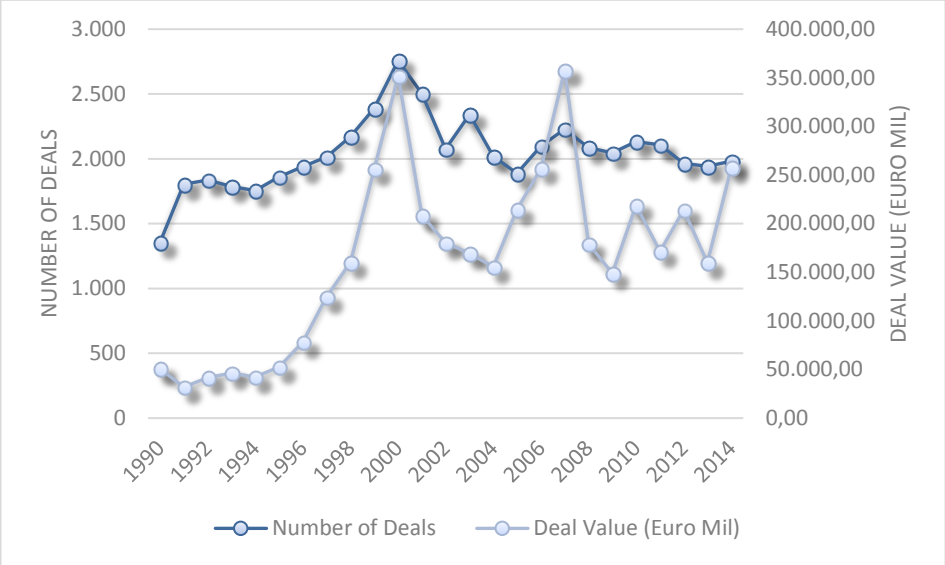

Figure 3: European Divestitures 1990–2014[7]

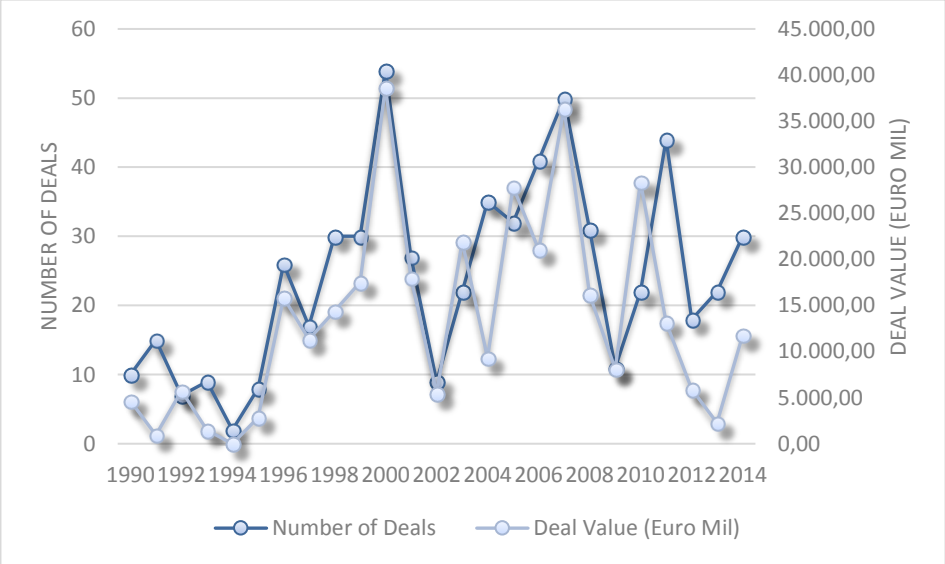

Figure 4: European Spinoffs 1990–2014[8]

[7] Excluding Russia; source: Thomson Financial.
[8] Excluding Russia; source: Thomson Financial.

2.2 Rationale for Corporate Divestitures

Böllhoff (2009) distinguishes between four groups of trigger factors regarding the rationale for corporate divestitures whereby their classification is not always unambiguous:

- Parent-specific trigger factors (internal)
- Target-specific trigger factors (internal)
- Competition-conditioned trigger factors (external)
- Involuntary trigger factors (external)

Trigger factors caused by the parent company are, for example, failed M&A transactions which are reversed, dismantling of conglomerates and increase in corporate focus, change in strategic focus, financial distress that forces the company to raise cash, personnel changes in the management team and also insufficient organisational resources to manage the subsidiary efficiently (Böllhoff, 2009; Sudarsanam, 2010; Panda and Rao, 2012). A further rationale could be that the divested business was part of an acquired company and the new parent does not want to keep it as it either does not fit into its strategic concept (‘preserve focus’) or the parent needs funds to finance the acquisition (Sudarsanam 2010). Some companies also use divestitures as a defence against hostile takeovers by selling the ‘crown jewels’ (Sudarsanam, 2010; cf. also Loh et al., 1995). Also, the so-called ‘buy low and sell high’ strategy as a business model, where a company is bought for a low price and sold piecemeal at a higher price, could be a rationale for divestitures (Marquette and Williams, 2007; Sudarsanam, 2010). The same is true for a ‘buy-operate-sell’ strategy where an underperforming subsidiary is bought to turn it around and sell it with profit (Sudarsanam, 2010). Another rationale according to Panda and Rao (2012) could also be the desire to reduce internal competition.

Target-specific trigger factors are often accompanied by competition-conditioned trigger factors. In this case, poor financial profitability, extended capital requirements or the end of a product life cycle lead to the divestiture of an asset. According to Böllhoff (2009), this is probably the most important rationale. The reason for these trigger factors is in many cases caused by cost benefits of competitors, excess capacity in the market or

shrinking markets. Information asymmetries could be a possible rationale if the parent assumes that its subsidiary is undervalued, i.e. the different parts of a company are worth more as a stand-alone business, but also, a competitor's tender offer, who is willing to pay an acquisition premium over the market value of the target asset, falls under competition-conditioned factors (Böllhoff, 2009).

Finally, there are also involuntary factors which may force a company to divest a business. These are, on the one hand, antitrust regulations, which coerce a company to divest a business, and on the other hand, also expropriation or nationalisation measures by governments (Böllhoff, 2009).

2.3 Theoretical Framework for Shareholder Value Creation

The reason for the value creation from divestitures seems to be obvious since most of the rationale lead to an increase in profitability, the reduction of losses, or ultimately secure the survival of a company. Many authors who have researched the sources of shareholder value creation, developed theoretical frameworks which serve as a basis to explain the shareholder wealth effects. Although there is some variation in the classification of the theories between different authors, the content is essentially similar. Three suitable approaches for theories explaining shareholder wealth effects, which cover and are based on past research, are presented chronologically hereinafter.

Kirchmaier (2003) distinguishes five types of value creation:

(1) *Dismantling of conglomerates*: The cost of diversified structures could exceed the benefits in the form of risk reduction and synergies and hence cause negative synergies. A divestiture could increase the corporate focus and remove those negative synergies.
(2) *Organisational improvements*: The reduction of size through a divestiture could reduce the 'information loss' and increase information efficiency within the organisation. This facilitates a more efficient management of the firm.

(3) *Capital market improvements*: The increase in corporate focus and, as a consequence thereof, an increase in profitability could facilitate the access to capital markets or attract new investors. This again eliminates barriers to growth.
(4) *Corporate governance improvements*: Better managerial incentives and a higher transparency lead to the reduction of agency costs and hence create value for the divesting firm.
(5) *Bondholder expropriation*: Regarding this issue, Kirchmaier (2003, p. 2) cites Hite and Owers (1983) and states that a divestiture could lead to a "Value redistribution from bondholders to shareholders through a reduction of the quality of the collateral provided […]."

Sewing (2010, p. 44) develops three more broad categories which to a large extent cover those of Kirchmaier (2003):

(1) Value creation by divesting underperforming and value-destroying parts of the business.
(2) Value creation through participation in the buyer's value creation potential.
(3) Value creation through a reallocation of a firm's resources to better performing divisions.

Fischer et al. (2013) also describe five possible theories for sources of value creation:

(1) *Transaction price*: Divestitures can create shareholder value if the price for the divested asset exceeds its present value for the divestor. This may, for example, be the case if the transaction creates synergies on the buyer side and, hence, the unit is worth more for the buyer than for the seller.
(2) *Negative synergies*: If two units or assets influence each other negatively, for example, through too high internal competition and/or cannibalisation effects, a divestiture can remove those negative synergies.
(3) *Agency costs*: As divestitures usually increase transparency for the external capital market, management can be controlled more effectively. This reduces the possibilities for the agents to act not in the interest of the principals and, hence, reduces the agency costs and creates value for the principals. Moreover, the agency costs of the internal capital market can also be reduced.

(4) *Managerial efficiency*: With an increasing level of diversification, managing the firms efficiently becomes more and more difficult, also since the managers probably do not have the expertise for all branches. Reducing the diversification level through divesting non-core assets and focusing on the strengths increases managerial efficiency and leads to shareholder value creation.

(5) *Information asymmetries*: Through the divestiture, more information about the divested asset becomes public, allowing a more efficient valuation of those assets. If they have been traded before at a discount because of the uncertainty due to missing information, the discount disappears and, hence, shareholder value increases.

The overview shows that the sources of shareholder value creation are basically consistent when comparing the above presented classification schemes, although classified in different ways. The different categories cover almost the same content and overlap each other. Thereby, the central theories to explain shareholder value creation in divestiture transactions are the resource-based view and the principal-agent theory, which will be explained in more depth later.

2.4 Divestiture Performance Studies

2.4.1 Evolution of Divestiture Performance Studies

The shareholder wealth effects and the different sources of value creation have been researched for 40 years. Although the focus was mainly on the US and with some delay also on the UK, research has also, only recently, also found its way into continental Europe. One of the first studies dates back to 1975 where Boudreaux (1975) investigated, probably for the first time, divestiture performance based on the capital market theory using event study methodology. Using event studies, divestiture performance is defined as the net change in shareholder wealth, i.e. the change in share prices during a specific event window surrounding the divestiture announcement that exceeds the expected return without the divestiture announcement during this event window (cumulative abnormal return)[9]. Usually, a short-term event window of a few

[9] The expected return is estimated using statistical or economic models, which are explained in section 4.4.1.3.

days surrounding the immediate announcement day is applied to isolate the divestiture event from other unrelated events. Hence, the methodology allows capturing the net effect of a specific event like a divestiture on the shareholder value of the company of interest. Using monthly data and not distinguishing between spinoffs and selloffs, Boudreaux (1975) found positive shareholder wealth effects for voluntary divestitures, but negative effects for involuntary divestitures. From a present-day perspective, the validity of the results of this study seems to be doubtful since exact announcement dates cannot be defined and, at best, the month of the announcement can be localised. Nevertheless, it initiated a wide range of capital market based divestiture performance studies applying event study methodology.

Whereas the first studies focus on the overall effect of divestitures, i.e. the shareholder wealth effects, later studies address the possible sources and factors influencing the shareholder wealth effects more and more. Fischer et al. (2013) classify these sources and the corresponding variables tested in (1) the financial situation of the divesting firm, (2) factors related to the divested asset, (3) factors related to the buyer/new owner of the divested asset, and (4) the development of the capital market as an environment related factor.

In the following section, the author gives an exhaustive overview of existing divestiture performance studies and their central content, chronologically sorted by economic region and – where useful – form of divestiture. For the purpose of this thesis, the author focuses on the most important US and European studies. European studies that solely focus on the D-A-CH region are considered separately from the other European studies. Due to practical reasons, in the case of hybrid studies in terms of the form of divestiture, the study is listed under the selloff section. The main outcomes of the studies, i.e. the average net shareholder value creation for the total samples, are summarised in Tables 3 to 6 (pp. 21, 38, 47, 50)[10]. Table 7 (p. 54) for selloffs and Table 8 (p. 55) for spinoffs provide an overview of the central variables investigated in the different studies, including the outcomes. The review of the divestiture literature is unique regarding the extent of studies included and provides a comprehensive picture of the different aspects investigated in divestiture research so far. This provides motivation for the large set of hypotheses of this thesis and allows comparison of the research

[10] Unless otherwise denoted, the reported event windows in the tables refer to trading days relative to the announcement date [0] of the divestiture. For a discussion regarding the applied event windows see section 4.4.1.5.

results with previous research regarding other economic regions or different points in time.[11]

2.4.2 US Studies

2.4.2.1 US Spinoffs

The 1980s

The first notable studies about shareholder wealth effects of spinoffs were published by Miles and Rosenfeld (1983), Hite and Owers (1983), Schipper and Smith (1983) and Rosenfeld (1984). These studies mainly focus on the overall effect of spinoff announcements and pay only a little attention to the factors influencing performance. All studies find significant positive cumulative average abnormal returns (CAARs) ranging between 2.84% and 5.56% during a two-day event window. However, they find that the size of the divested asset, tax or regulatory advantages, a good financial condition and strategic spinoffs of the parent have a positive effect on the announcement gains. On the other hand, they reject that the shareholder wealth gains come from wealth transfers from senior claim holders.

The 1990s

Cusatis et al. (1993) criticise the previous research by Hite and Owers (1983), Schipper and Smith (1983) and Miles and Rosenfeld (1983) since investors would not fully anticipate an increased takeover activity following the spinoff at the immediate announcement and therefore underestimate the extent of shareholder value creation. They justify this statement with positive CAARs for the parent, as well as the spinoff, up to three years following the announcement. Hence, they also include the returns up to three years following the completion of the spinoff. For the parent firms of their sample, Cusatis et al. (1993) observe a matched-firm-adjusted return[12] of 6.8% (6 months event window), 12.5% (12 months), 26.7% (24 months) and 18.1 % (36 months). They also perform a two-day event study with a reduced sample and detect a mean-adjusted return of 2.1%. Thus, the results of the long-term event study are in line

[11] Please note that the recorded returns are always abnormal or excess returns, i.e. the returns exceeding the expected returns in the applied event window. For linguistic purposes, however, the author may sometimes only use the term ‘return’. Moreover, the mentioned abnormal returns are always averages for the sample.

[12] The excess return is calculated by subtracting the return of peers from the actual return instead of the expected return.

with the positive short-term results and confirm the finding that spinoffs seem to create significant shareholder value.

Investigating the spinoff ex-date effects on shareholder wealth, Vijh (1994) delivers a different approach compared to most of the other scholars. Vijh (1994) observes a significant CAAR of 3.03% on the ex-date and shows that the wealth gains for shareholders in spinoff transactions exceed the announcement gains. However, information asymmetry could not be the reason for these excess returns as there should be no systematically new information on the ex-date. Indeed, Vijh (1994) attributes the excess returns on ex-dates to market imperfections such as transaction cost considerations or investor interests.

Since the studies of Miles and Rosenfeld (1983), Schipper and Smith (1983) and Hite and Owers (1983) cannot fully explain their observed shareholder wealth gains, Allen et al. (1995) develop another approach. Focusing on spinoffs that result from previous acquisitions, they try to explain the positive announcement returns as a result of the "[…] correction of a prior mistake" (Allen et al., 1995, p. 465). Although their research supports previous findings that spinoffs generally create positive CAARs, they find no evidence for their 'correction-of-a-mistake' hypothesis since the abnormal return for a matched sample of spinoffs that did not result from takeovers is nearly the same (2.15% compared to 1.85%).

Attempting to gain new evidence for the origins of excess returns, Slovin et al. (1995) analyse the announcement effects on rival firms. Regarding spinoffs, it seems that the event has no influence on parent rivals with an insignificant announcement return of 0.18%, but it shows a small influence on rivals of the spun-off entity with an announcement return of 0.60% (significant at the 10% level). Parent abnormal returns are in line with prior studies. Slovin et al. (1995) explain the positive effect on rival firms with the argument that the spinoff may be a sign that the parent firm regards its subsidiary as undervalued. Hence, the same might be true for rivals.

Seward and Walsh (1996) investigate spinoffs with a focus on internal corporate control mechanisms. However, they do not find that these control mechanisms are strongly related to the observed positive announcement effects. Overall, their sample shows CAAR of 2.6% and therefore confirms prior studies.

Daley et al. (1997) test if cross-industry spinoffs lead to higher abnormal returns than spinoffs that do not increase corporate focus, and, if so, if the results are in line with improvements in operating performance and/or bonding benefits[13]. The results confirm their hypothesis detecting significant positive CAARs for cross-industry spinoffs (4.3%) but not for own-industry spinoffs (1.4%). For own-industry spinoffs, the median excess return is even negative with -0.1%. Overall, they observe a significant positive CAAR of 3.4%. Furthermore, they find evidence for their hypothesis that value creation derives from improvements in operating performance, which is significantly positive for cross-industry spinoffs, measured via the change in return on assets from the fiscal year before to the fiscal year following the spinoff. However, they do not find evidence that bonding benefits are related to shareholder value creation.

Following Cusatis et al. (1993), Desai and Jain (1999) use a long-term event window of three years to investigate if shareholder value gains in spinoff transactions can be explained by an increase in corporate focus. In their sample, parent firms undertaking focus-increasing spinoffs perform significantly better, with a CAAR of 25.37% compared to those of non-focus-increasing spinoffs with -10.51%. This remains true for a three-day event window where the CAAR for the focus-increasing sample is 4.45% compared to 2.17% for the non-focus-increasing sample. Similar to Daley et al. (1997) they furthermore report that operating performance is positively associated with an increase in corporate focus. Investigating the motives for non-focus-increasing spinoffs, they only find evidence for their hypothesis that firms often spin off underperforming subsidiaries. However, they do not find evidence that possible motives for non-focus-increasing spinoffs are a reduction of debt or financial distress as well as a possible transfer of debt to the spun-off subsidiary.

[13] "[…] bonding refers to a pre-commitment by managers to avoid cross-subsidizing relatively poor performing units […]" (Daley et al., 1997, p. 257).

Krishnaswami and Subramaniam (1999) investigate the role of information asymmetry as a source of shareholder value creation. For their sample, Krishnaswami and Subramaniam (1999) detect a highly significant CAAR of 3.15%. The results support their hypothesis that higher levels of information asymmetry before a spinoff lead to higher announcement returns than less information asymmetry. Furthermore, information asymmetry decreased after the completion of the spinoff. Moreover, the information asymmetry argument is even more important for firms spinning off related subsidiaries as they may not have as many negative synergies that can facilitate abnormal announcement gains as unrelated spinoffs. However, they do not find statistical support that regulatory issues or merger motives lead to higher abnormal returns.

The 2000s

Burch and Nanda (2003) try to investigate the costs of corporate diversity, which is partially related to the studies of Daley et al. (1997) and Desai and Jain (1999), researching the corporate focus hypothesis as the origin of shareholder value creation. Supporting those earlier studies, they find evidence that spinoffs reduce corporate diversity and, hence, value creation is at least partially related to prior losses caused by a conglomerate discount which is mitigated through the spinoff.

Maxwell and Rao (2003) address the hypotheses of Hite and Owers (1983) and Schipper and Smith (1983) that the shareholder value gains are related to wealth expropriation from bondholders. Although Hite and Owers (1983) and Schipper and Smith (1983) did not find evidence for their hypotheses, Maxwell and Rao (2003) again investigate this issue as the prior studies suffered from a small sample size and restricted access to bond price data. For their sample, they find a significant positive abnormal shareholder return of 3.59% and a significant negative abnormal bondholder return of -0.88%. The overall change in firm value is significantly positive with 1.59%. Hence, they conclude that spinoffs on average create shareholder value, but only partially at the expense of bondholders. Even though they find that the effect of spinoffs for stockholders is negatively related to the effect for bondholders, their wealth transfer hypothesis is only weakly significant.

Study	Sample Period	Sample Size	Event Window	CAAR Divestor
Miles & Rosenfeld (1983)	1963-80	55	[0;1]	3.34%***
Hite & Owers (1983)	1963-81	123	[-1;0]	3.3%***
Schipper & Smith (1983)	1963-81	93	[-1;0]	2.84%***
Rosenfeld (1984)	1963-81	35	[-1;0]	5.56%***
Cusatis et al. (1993)	1965-88	146	2-days	2.1%[a]
Vijh (1994)	1964-90	113	[-1;0]	2.9%***
			ex-date	3.3%***
Allen et al. (1995)	1962-91	94	[-1;0]	2.15%***
Slovin et al. (1995)	1980-91	39	[0;1]	1.32%**
Seward & Walsh (1996)	1972-87	78	[-1;0]	2.6%***
Daley et al. (1997)	1975-91	85	[-1;0]	3.4%***
Desai & Jain (1999)	1975-91	155	[-1;1]	3.84%***
Krishnaswami & Subramaniam (1999)	1979-93	118	[-1;0]	3.15%***
Mulherin & Boone (2000)	1990-99	106	[-1;1]	4.51%***
Maxwell & Rao (2003)	1974-97	80	[0;1]	3.59%***
Burch & Nanda (2003)	1979-96	106	[-2;1]	3.7%***
Ahn & Denis (2004)	1981-96	150	[-1;1]	4.03%[a]
Marquette & Williams (2007)	1980-unkown	58	[-1;1]	1.35%*

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively

[a] Unknown level of significance

Table 3: Shareholder Value Effects of US Spinoff Announcements

Ahn and Denis (2004) study the reasons for the conglomerate discount of corporations and try to link the discount to inefficient investment allocations within the firm since they observe that following spinoffs, the firms are no longer valued at a discount. In fact, they find that shareholder value gains following spinoff announcements are significantly associated with changes in investment allocation; however, improvements in investment allocation only partially explain the observed announcement gains. Ahn and Denis (2004) observe a CAAR of 4.03%, whereby the return for multi-segment firms (3.29%) is lower than those of single segment firms (5.77%).

Marquette and Williams (2007) investigate the shareholder value changes of acquisition-spinoff combinations. Such combinations could either be the correction of a mistake (cf. Allen et al., 1995), or also strategic action to extract value from the first acquired and then spun-off subsidiary. Their announcement excess returns confirm earlier studies. Whereas the acquisitions destroy significant value for the bidder of

-2.04%, the spinoffs lead to shareholder value creation of 1.35%. Summing up both events, the bidders in the acquisition, respectively parents in the latter spinoff, create on average $90.21 million, which is insignificantly different from zero. Thus, they conclude that takeover-divestiture transactions neither destroy nor add value to the bidder/parent firm, either because these transactions are inconsequential or the bad and good deals balance each other.

Table 3 summarises the results of the US studies regarding the shareholder value effects of corporate spinoffs.

2.4.2.2 US Selloffs

The 1980s

As in the case of spinoffs, the first studies analysing the announcement effects of selloffs focus on the overall effect. Whereas Alexander et al. (1984) only find a slight announcement effect for selloffs (0.29%), Rosenfeld (1984) detects a more positive impact (2.33%) which is significantly smaller than those of his spinoff sample.

Hearth and Zaima (1984) find significant positive shareholder wealth effects for the time preceding the divestiture announcement, as well as for the period of one trading week prior to and following the announcement. Their CAAR is 4.8% for the period of 50 until 10 trading days before the announcement, 3.96% for the period of ten days before the announcement, and 3.55% for the announcement date and the ten days surrounding this date. During the period following the announcement, the excess returns become insignificant. Moreover, Hearth and Zaima (1984) find that divestors with a good financial constitution and divestors selling large assets obtain higher abnormal returns than their counterparts. The motive, however, seems to have no influence on abnormal returns. From a present-day perspective, the finding of abnormal returns already in the pre-announcement period somewhat contradicts the assumption of efficient capital markets[14]. In fact, it shows that the market at this time was not as informationally efficient as today and some market participants may have possessed quasi-insider information as information was not as easily publicly available as today.

[14] The assumption of capital market efficiency is discussed in section 4.4.1.1.

This justifies the approach of Hearth and Zaima (1984) of also including the pre-announcement period in the calculation of the abnormal return in order to assess the full shareholder wealth effect of the divestiture as long as there were no confounding events in this period.

Using monthly data similar to Boudreaux (1975), Montgomery et al. (1984) specifically investigate the influence of the strategy behind the selloff on the share prices. During the period of one year prior to one year following the announcement, they find positive CAARs for strategic divestitures (34.53%, highly significant) and divestitures in response to liquidity concerns (25.67%, insignificant). The CAARs are negative for the case of the selling of unwanted units (-9.13%, significant at the 7% level), forced divestitures (-1.87%, insignificant) and also divestitures where no specific reason is stated (-10.81%, insignificant). Overall, the mean announcement excess returns during the observation period are 7.25% (significant at the 8% level). Hence, they find contrasting results to Hearth and Zaima (1984) who cannot find evidence for an influence of the divestiture motive.

Jain (1985) extends the work of Alexander et al. (1984) and analyses the wealth effects for both sellers as well as buyers. For sellers, Jain (1985) finds a CAAR of 0.7% over the five days preceding the divestiture announcement; for buyers he finds a return of 0.34% on day [-1] (both statistically significant). Furthermore, he observes that selloff announcements are preceded by a period of significantly negative abnormal returns. This is in contrast to Miles and Rosenfeld (1983), who find significantly positive abnormal returns in the pre-announcement period for parent companies engaging in spinoff transactions. Hence, Jain (1985) concludes that pre-divestiture performance may decide about the chosen form, dependent on the financial situation of the divesting firm, i.e. firms with liquidity problems are more likely to engage in selloff transactions, due to the need to generate cash, and spinoffs are more likely to be undertaken by healthy firms. Moreover, Jain (1985) suggests that selloffs can be regarded as partial mergers, where the target receives an acquisition premium whereas the buyer does not create significant shareholder value.

Hearth and Zaima (1986) argue that the announcement returns would not fully reflect shareholder wealth effects as there may be three sources of uncertainty that influence the market reaction: (1) the divestiture may not be completed, (2) the terms of the divestiture may change until completion, and (3) there may not be sufficient evidence that the benefits of the transaction will actually be achieved. Hence, Hearth and Zaima (1986) distinguish between three different periods: the pre-announcement period, the interim period between the announcement and the completion, and the post-completion period. In fact, they also find evidence for positive abnormal returns prior to the announcement date, whereas following the completion date abnormal returns become insignificant and random. The CAAR over the period on the announcement day and the day preceding is highly significant with 1.42%.

Klein (1986) focuses on the relative size of the sold unit as well as on the announcement of the transaction price. Whereas for the whole sample she finds a significant CAAR of 1.12%, the excess return averages 2.47% for the subsample of firms that initially announce the transaction price compared to 0.02% (insignificant) for the subsample not announcing a price. Also the difference between the excess returns of the two subsamples is significant at the 1% level. Moreover, the excess return of the no-price announcement group remains insignificant even if the price is announced at a later point. Investigating the influence of the relative size, Klein (1986) detects that the main excess returns are earned by firms out of the 'price' subsample divesting more than 10% of their equity value. These findings are in line with prior research.

Hite et al. (1987) compare the announcement effect of selloffs that are completed versus those that are terminated. Whereas the CAAR of the sample of selloff announcements that are completed is 1.66%, the sample for terminated selloff announcements averages 1.41% (both statistically significant). However, at the time of the outcome announcement – meaning if the selloff is completed or terminated – the first sample receives an additional 0.82% (insignificant) abnormal return whereas the effect is -0.95% (significant) for the termination sample. Moreover, for the latter case, the positive announcement returns are followed by a period of significantly large losses. Indeed, the excess returns for terminated selloff announcements with follow-up bids are more positive on the initial announcement respectively less negative on the outcome announcement than terminations without follow-up bids. Combining the excess return

of the initial announcement and the announcement of the outcome, the completed selloffs average 2.28%, the terminated selloffs 0.46%. Hence, it appears that the announcement effects for terminated selloff announcements are equalised on the outcome announcement. Thus, Hite et al. (1987) claim their findings support the hypothesis that announcement gains derive from synergies, but not from removing information asymmetries. They also analyse the announcement effects for total liquidations and find highly positive returns (12.24%) for this form of divestitures.

Developing a new approach, Tehranian et al. (1987) compare the announcement effects of firms with long-term performance plans with those of firms without. Their results indicate that firms compensating their managers based on long-term performance plans gain significant positive announcement excess returns (0.65% over a two-day event window), while firms without such compensation plans gain insignificant negative returns (-0.15%). The difference in returns between the two subsamples is significant. Hence, their study provides evidence that agency costs can be reduced by introducing long-term performance-based executive compensation plans.

Hirschey and Zaima (1989) investigate the effects of insider trading and the ownership structure on wealth creation. Whereas the overall effect in their sample averages a highly significant 1.64% over a two-day event period [-1;0], they report a positive influence on announcement returns of insider net-buy activity as well as for firms that are closely held by insiders. During the same period, the CAAR to firms in the net-buy/closely held subsample (5.26%, significant at the 1% level) outperforms the CAAR of the net-sell/widely held subsample massively (insignificant 0.75%).

Hite and Vetsuypens (1989) examine the wealth effects of management buyouts (MBOs) and whether this form of divestiture is harmful to the parent company shareholders. Such transactions would be characterised by an absence of ‘arm’s length bargaining’ and the “[…] possibility of ‘managerial self-dealing’ […]” (Hite and Vetsuypens, 1989, p. 954). Indeed, they find that in comparison to interfirm divestitures, the wealth gains in MBOs are smaller, but the difference between the average excess returns is not significant. Whereas the CAAR for the MBO sample is 0.55% (significant at the 5% level), the CAAR for the interfirm divestitures is 1.12% (significant at the 1% level). Albeit, the slightly positive effects for the MBO sample

might be caused by several outliers since sign tests do not show any significant results. However, they find no evidence for a harmful influence of MBOs on shareholder wealth, even if they distinguish between cases where the buyer belongs to the parent management, which might have more influence on the price negotiation and cases where the buyers are the managers of the divested division. Moreover, the participation of an outside third party also has no statistical influence on wealth effects. A positive effect can, however, be attributed to the relative size of the price in relation to the pre-buyout equity and the stake of the management in the parent's equity.

The 1990s

Hirschey et al. (1990) test if bank debt serves as an informal endorsement of unexpected corporate decisions like selloffs and can be viewed as 'quasi-insider' knowledge. Therefore, they compare the excess returns of selloff announcements of firms with zero or low bank debt with those of firms with bank debt. They find that sellers with zero or low bank debt receive on average 0.83% abnormal return (insignificant), whereas sellers with bank debt receive 2% (significant). Looking at the effect of insider trades before the announcement of selloffs, they come to a similar result, observing 1.18% CAAR for net insider sell decisions and 2.23% for net insider buy decisions (both significant). Combining both effects, the zero bank debt and net insider sell sample leads to an abnormal return close to zero, whereas the non-zero bank debt and net insider buy sample leads to 2.72% (highly significant). However, they do not find evidence that the results regarding bank debt are caused by leverage effects since they do not observe a relation between financial leverage of the selling firms and abnormal announcement returns. Hence, they conclude that bank loans are viewed positively by the capital markets regarding unexpected corporate decisions. They expect the banks to take on a monitoring function implying that those decisions are endorsed by the respective bank.

In line with Alexander et al. (1984), who only find weak significant wealth effects, and opposing other earlier research, Denning and Shastri (1990) neither find any significant influence of divestiture announcements on shareholder wealth nor on bondholder wealth. However, Denning and Shastri (1990) only investigate a small sample of firms with single, and at the same time large, divestitures, which may restrict the comparability of the outcomes with previous research.

Cakici et al. (1991) observe that the abnormal returns to parent shareholders are significantly higher if the assets are sold to foreign bidders rather than to domestic ones. Moreover, there are specific industries that perform better than others. Whereas selloffs in the electronics, computer and telecommunications industry and in the retail industry are regarded favourably by the capital markets, selloffs in the oil/gas industry are regarded less favourably. Regarding the form of divestiture, i.e. horizontal, vertical or conglomerate selloffs, as well as the financial status, they do not find any influence.

In a theoretical approach, Shleifer and Vishny (1992) explore the determinants of divestiture performance looking at the financial situation of the firm and possible buyers. They conclude that selling during times of financial distress should destroy shareholder value as the firms which would have the best use for the assets to be sold are in the same industry and likely to have financial distress themselves in an industry-wide recession. In these situations, assets are highly illiquid which lowers the price for the assets for sale. However, in a liquid market, the seller could profit from the transfer of the assets to an owner that is able to use the assets more efficiently.

Similar to Klein (1986), Sicherman and Pettway (1992) investigate the effect of price disclosure at the announcement, and also the effect of the financial condition. Furthermore, they analyse the influence of those factors on the buyers to determine how shareholder gains are shared between seller and buyer. Whereas for the overall sample, the seller CAAR yields 0.92%, the CAARs are substantially higher for the subsamples of sellers with a good financial condition and sellers disclosing the price on the announcement date (1.13% compared to 0.37% and 1.48% compared to 0.31% respectively, significant at the 1% level). Combined, the difference is even higher with a significant CAAR of 1.89% for firms in a good financial condition that announce the price and an insignificant CAAR of 0.13% for sellers subject to a downturn of financial strength and not announcing the price. However, looking at US dollar values instead, the average gains for firms in a poorer financial condition are higher than for those in a good financial condition. In summary, the findings are in line with those of Klein (1986) ascribing a direct influence of the disclosure of the transaction price on the announcement gains.

Pashley and Philippatos (1993) link the announcement gains of selloffs to the life cycle stage of the divesting firm. Therefore, they cluster their sample into four different groups: (1) the late expansion/early maturity stage, (2) the regenerating maturity stage, (3) the late maturity/early decline stage, and (4) the decline stage. However, they only find weak results. Comparing the CAAR during a 21-day event window, they find a slightly positive but insignificant effect for the first three life cycle stages compared to a control sample and a slightly negative effect (also insignificant) for the last stage (3.8%, 4.9%, 5% and -2%). Also, for the whole sample, they find only a modest outperformance of divesting firms over their control group and any significant results are at rather low levels and can be explained by a few outliers. Hence, their findings do not support earlier studies; therefore, they conclude that an investor will not be better off by investing in firms undertaking voluntary selloffs. Indeed, as expected, the regenerating maturity stage, as well as the late maturity/early decline stages, seems to have the best performance.

Brown et al. (1994) investigate asset sales by financially distressed firms. For their overall sample, they find a CAAR of insignificant 0.01% which is contrary to the results for healthy firms. Looking at the use of the proceeds, i.e. if the proceeds are used to repay debt or to remain in the company, they find significant differences. For the repay debt sample, the CAAR is -1.63% (insignificant); for all other purposes the abnormal return averages 1.87% (significant at the 5% level). According to Brown et al. (1994), this reaction seems to be obvious as the creditors, which seem to have an influence on the company decisions, may not believe in the survival of the company if they do not allow reinvestment of the money. Dividing the sample further between firms that went bankrupt within two years after the event and firms that escaped bankruptcy, the stock market reaction is significantly negative for the first case and positive for the second case. The influence of the use of proceeds remains the same as in the overall sample. Moreover, in those cases where the cash raised is used to pay down debt, bondholders seem to gain at the expense of shareholders.

Servaes and Zenner (1994) analyse the effects of the Economic Recovery Tax Act (ERTA)[15] on the returns of target firms in foreign acquisitions in the US. Regarding their sample of acquisitions of units, which equals the parent returns in selloffs, they observe a highly significant abnormal announcement return of 1.08%. Against their expectations, they find neither an influence of the tax reform nor of the changes in exchange rate on abnormal returns during their observation period from 1979 to 1988. Just as in previous studies, the relative size of the sold unit has a significant influence on returns.

As noted in the spinoff section, Slovin et al. (1995) analyse the announcement effects on rival firms for different forms of divestiture transactions. Regarding selloffs, they measure an announcement return of 1.7%, which is highly significant, whereas the effect on parent rivals is insignificant with 0.03%. Also, the effect on subsidiary rivals is with 0.04% insignificant. Hence, a selloff seems to have no influence on industry rivals.

John and Ofek (1995) support the corporate focus hypothesis. They observe that the excess return for their focus-increasing sample exceeds the return of non-focus-increasing divestitures by 1.2%–2.4% dependent on the measure of focus increase (Herfindahl index, SIC-Code, number of segments). This evidence is supported by an increase in operating performance in the years following the divestiture. Moreover, John and Ofek (1995) state that the influence of the focus-increasing effect on divestiture performance dominates other explanations for shareholder value gains.

As do Brown et al. (1994), Lang et al. (1995) look at the use of proceeds in divestiture transactions. Inconsistent with the findings of Brown et al. (1994), their results show that firms paying out the proceeds (primarily to pay down debt but also to pay dividends to their shareholders) perform significantly better than firms reinvesting their proceeds. In the latter case, the proceeds would be discounted "[…] because of agency costs of managerial discretion" according to Lang et al. (1995, p. 22), although they do not find direct evidence for this hypothesis. Also the relative size has a significant influence. Lang et al. (1995) conclude that – contrary to prior research – the performance gains would not simply result from participating in the transfer of the assets to higher valued

[15] The Economic Recovery Tax Act was a federal law in the US from 1981 aimed to "encourage economic growth through the reduction of the tax rates for individual taxpayers, acceleration of capital cost recovery of investment in plant, equipment, and real property, and incentives for savings, and for other purposes" (Public Law 97-34, 95 Stat. 172, enacted 13th August 1981).

uses, but rather depend on the financing hypothesis, i.e. assets are sold when this is the most favourable and cheapest way to obtain funding. The fact that the selling firms in their sample are mostly poorly performing supports this assumption.

Loh et al. (1995) reveal that divestitures that are undertaken as an instrument of takeover defence may not be shareholder value-creating. Whereas for their overall sample of solely large divestitures (transaction value of at least $75 million) the two-day announcement return is 1.50% (significant at the 10% level), the return for divestitures of firms that were subject to a takeover bid is just 0.93% and insignificant. Regarding a seven-day event window, the abnormal return for the latter sample becomes even negative. In contrast, the return for divestitures without takeover speculation is 2.58% and significant at the 5% level. However, Loh et al. (1995) only look at this single factor and renounce multivariate analyses including other variables that have been shown to influence shareholder value creation. Moreover, the 'takeover-speculation' sample is fairly small with just 13 cases.

Blumberg and Owers (1996) investigate whether cross-border selloffs lead to higher abnormal announcement returns for the target parent than selloffs to domestic firms, as was the case in the study by Harris and Ravenscraft (1991) for acquisitions of whole firms. For the two-day event window, Blumberg and Owers (1996) find highly significant abnormal returns of 1.44%. Nevertheless, the abnormal returns are not higher as in previous studies for domestic selloffs. Therefore, they cannot reject their null hypothesis that there is no difference in returns between asset sales to domestic and foreign acquirers. Also, the variation between different major acquirer regions (UK, Germany, Canada, Japan etc.) does not seem to be substantial.

Looking at both stockholders and bondholders, Datta and Iskandar-Datta (1996) try to reveal a more complete picture of wealth effects of corporate selloffs. Despite the overall effect, they particularly look at the use of proceeds and three different motives for the divestiture. Consistent with the findings of John and Ofek (1995), they find a significantly positive effect for strategic (focus-increasing) divestitures and a significantly negative effect for divestitures motivated by takeover fears. Financial distress seems to have no unambiguous influence on shareholder wealth; however, the benefits of selloffs by financially distressed firms are positive for bondholders. The

overall announcement effect for shareholders in their sample averages 1.05% over a two-day event window (significant at the 1% level). Moreover, Datta and Iskandar-Datta (1996) document wealth transfers between stockholders and bondholders that may depend on the relative size, the use of proceeds and the protection of bondholders by covenants.

Guedes and Parayre (1997) present a model that distinguishes between selloffs of successful and underperforming divisions, i.e. 'winners' and 'losers'. As they assumed, the selloffs of winners lead to significantly positive abnormal returns over a two-day event window (3.37%) whereas the returns for the losers are insignificantly different from zero (0.58%). Also, the difference between the returns is highly significant. The reason for this difference, according to Guedes and Parayre (1997), is that the announcement of a selloff of a winner reveals good news about the division, whereas the selloff announcement of a loser does not.

Borde et al. (1998) analyse the wealth effects of divestitures of foreign subsidiaries. The four-day announcement returns for divestitures of foreign subsidiaries average a highly significant 2.28%. However, the returns are not significantly different from divestitures of domestic subsidiaries. Going further, they report a positive influence of the relative size, if the reason for the divestiture is a strategic reorganisation or to counter liquidity problems, and if the country of the divested subsidiary is classified as an industrial country by the International Monetary Fund (IMF) (Borde et al., 1998).

The 2000s

Hanson and Song (2000) relate the announcement effects of corporate divestitures to the firm's managers' stock ownership and the proportion of outside directors on the board. In a cross-sectional regression, they find no influence for the stock ownership variable but a moderate influence of the fraction of outside directors. Looking at the cases with positive absolute gains only, both variables have a positive and significant influence on the seller's shareholder wealth. Hence, the results support their hypothesis that stock ownership gives managers incentives to act in the best interest of the shareholders and that outside directors are effective monitors and advisors (Hanson and Song, 2000, p. 68).

For their sample of 175 divestitures between 1990 and 1994, Kang and Diltz (2000) find that filtering the sample for contemporaneous dividend announcements leads to a reduced significance of the generally large and positive announcement returns and strengthens the negative wealth effects in the respective cases. Based on these results, they underline the importance of careful data selection methodologies in order to provide reliable results.

Mulherin and Boone (2000) compare the announcement returns of acquisitions and the different forms of divestitures (asset sales, spinoffs, and equity carve-outs) in order to determine whether the wealth effects are consistent with a synergistic explanation. They find significantly positive announcement effects for both acquisitions (total) and divestitures (parent), supporting their hypothesis that restructuring events are a response to economic change and thus a result of synergistic considerations. Moreover, they detect a positive effect of the relative size of the target on shareholder wealth creation.

Byerly et al. (2003) focus on different types of portfolio restructuring. They divide their sample of firms engaging in corporate divestitures into eight subgroups. First, they distinguish between the restructuring strategies of refocusing and repositioning, then, they further distinguish between "single/dominant business firms, related-constrained, related-linked, and unrelated diversifiers" (Byerly et al. 2003, p. 537)[16]. Whereas for refocusing strategies, they expect the unrelated and related-linked firms to obtain higher announcement returns, they expect the single/dominant and related-constrained firms to receive higher abnormal returns when following repositioning strategies. Their results, however, are somewhat mixed. Regarding refocusing strategies, all diversified firms obtained significant positive announcement returns on day [-1], whereas the return for related-constrained firms was the highest with 3.43%. Regarding the repositioning strategies, the single/dominant, related-constrained and related-linked firms obtained significant positive returns. Here, the highest returns were received by the single/dominant firms with 6.21% on day [-1]. Looking at the two-day announcement returns, the only significant returns were obtained by the related-constrained firms in the refocusing sample and the single/dominant and related-constrained firms in the repositioning sample. This evidence regarding refocusing at least partially contradicts

[16] In related-constrained and related-linked firms, less than 70% of the revenue comes from the dominant business. Whereas in related-constrained firms, there are direct links between the different businesses and they share resources or assets, there are only limited links and resource/asset sharing in the case of related-linked firms. The latter case represents a mixture between related and unrelated diversification.

prior evidence that overdiversified (unrelated) firms should benefit most from de-diversification. However, it might be the case that related-constrained firms obtain the highest returns as the refocusing in these firms may be part of a coherent strategy and an offensive rather than a defensive behaviour (Byerly et al., 2003). The evidence that single/dominant and related-constrained firms, characterised by a low level of diversification, benefit most from repositioning strategies is in line with their expectations[17].

Datta et al. (2003) investigate the divestiture performance dependent on the seller's Tobin q ratio[18], the degree of monitoring by private creditors, the relatedness of the divested asset and the number of bidders. Datta et al. (2003) find that high q ratios influence the announcement returns positively, as the seller is likely to use the proceeds in a better way than low q sellers. Also, lender monitoring has a significant positive influence on the seller's announcement returns as the use of proceeds may be effectively controlled by the creditors. Surprisingly, the relatedness of the divested unit, as well as the number of bidders, seems to have no influence. Regarding the transaction as a whole (seller plus bidder), divestitures create the most value when high q acquirers and low q sellers are involved; when low q acquirers and high q sellers are involved, the transaction is likely to be value-destroying. This can be explained with the view that the divested unit is either moved from a poorly performing to a good performing unit or vice versa.

Slovin et al. (2005) focus on the form of payment by comparing the performance effects of selloffs with equity and cash as means of payment. Contrary to the existing M&A literature, equity deals are viewed more favourably by capital markets than cash deals. Whereas the CAAR is 3.17% for the equity case (9.77% for the buyer), the excess return yields 1.89% (-0.3%) for the cash case, although the difference between the returns is not significant at conventional alpha levels. Regarding the combined excess returns (weighted), the picture remains the same with an excess return of 0.21% for the cash deals and 3.18% for the stock deals respectively. These results are in line with changes in operating performance following the selloff. Hence, this case shows again

[17] The results of this source are not presented in the table as results are only reported for the eight subsamples and not for the overall sample.
[18] Datta et al. (2003) use Tobin's q ratio as proxy for managerial performance. Tobin's q is calculated as the total market value of a company divided by the replacement value of its assets.

that evidence from M&A cannot simply be transferred on divestitures; moreover, it supports the evidence that divestitures on average create net shareholder value.

Bates (2005) analyses the announcement returns of divestitures with respect to the use of proceeds and the investment opportunities of the seller in cash transactions. The highest returns are obtained from the subsample of divestitures, which use the proceeds to pay down debt (1.6%), followed by the subsample of divestitures where the proceeds are retained within the firm (0.9%). The announcement returns for the equity payout sample (either stock repurchase or extra dividend) are the smallest and insignificant (0.7%). The difference between the pay debt sample and the other two subsamples is significant. Furthermore, the return for firms retaining the proceeds is moderated by the growth opportunities of that firm, i.e. firms with better growth opportunities generate higher abnormal returns. For this subsample, positive abnormal returns in the two years following the transaction suggest that the benefits of this usage are not fully incorporated at the announcement date, in contrast to the remaining subsamples. At the time of the announcement it is not fully clear what happens to the retained proceeds. The positive results for the pay debt subsample are likely to result from the agency costs of a suboptimal debt structure which is improved by the transaction. The study of Bates (2005) adds further evidence to the studies of Brown et al. (1994) and Lang et al. (1995) by incorporating the equity payout option as the third subsample and therefore further specifies the use of proceeds as a source of shareholder wealth creation.

Similar to their study from 2000, Hanson and Song (2006) investigated the influence of the board structure, ownership structure, insider trading and external monitoring on shareholder wealth. In comparison to their findings from 2000 regarding a sample out of the same period, they find a positive influence of managerial ownership from inside directors, the proportion of outside board directors, an increase in net buying activity before the selloff (although still negative) as well as the relative size of the transaction. Also, external monitoring, measured by a dummy that indicated whether the selling firm becomes a takeover target after the transaction, seems to have a positive influence. The use of proceeds to pay down debt, however, has no statistically significant influence on shareholder wealth in their regression analysis. Hence, shareholders seem to benefit from internal control mechanisms.

Kiymaz (2006) looks at a broader set of variables influencing shareholder wealth in selloff transactions. He observes a statistically positive influence of the motivation to pay down debt, the degree of bank loans indicating external monitoring of the firm, the total asset turnover (applied as a measure of managerial efficiency) and the divestors' total assets, suggesting that larger firms' shareholders obtain higher wealth gains. Also, a higher profitability of the divestor, measured by the return on equity (ROE), has a slightly positive influence. The increase in corporate focus, however, only has a small influence solely looking at the motives for the selloff, but has no significant influence in a regression including all tested variables, opposing prior research. Also, unlike prior research, the relative size of the transaction has no significant influence on shareholder wealth; financial distress, measured by the Standard & Poor's (S&P) long-term issuer credit ratings, has a significant positive influence supporting the bankruptcy avoidance hypothesis. Moreover, the announcement returns vary between industries. The highest returns are obtained by the firms in the SIC 10–13 group (6.43%).

Bergh et al. (2008) not only investigate the performance effects of corporate spinoffs and selloffs, but also the rationale behind a company's decision for the chosen form. They argue that the company should choose the form which mitigates information asymmetries and creates most shareholder wealth. For their analysis of the announcement effects, they distinguish between selloffs and spinoffs and categorise the sample based on the firm's degree of diversification similar to Byerly et al. (2003) in single, dominant, related-constrained, related-linked and unrelated businesses. They find that firms divesting related businesses (single, dominant and related-constrained businesses) significantly perform better when they choose the form of a spinoff, whereas firms divesting unrelated businesses (related-linked and unrelated businesses) significantly perform better by choosing the form of a selloff. Overall, the announcement returns for selloffs are positive in all of the five categories ranging from 0.61% (single business) to 3.55% (related-linked business). The diversification level is not the only variable that influences the choice for a specific form of divestitures; this, however, goes beyond the scope of the underlying thesis.

Hege et al. (2009) look at the form of payment in corporate asset sales. They suggest that equity deals should lead to higher abnormal returns than cash deals, in contrast to the case of mergers. Their results support this view. Sellers in their sample gain a

significant 6.92% when the mode of payment is equity and a significant 1.43% when the mode of payment is cash. Also, the difference in returns is highly significant. Moreover, in equity transactions, the buyer of the sold asset can also incorporate some announcement gains which count for about 40% of the combined announcement gain. The results of a cross-sectional regression are consistent with the univariate results. Unlike prior studies, other independent variables regarding the characteristics of the selling firm (size, firm performance, firm financial status etc.) do not show any statistical significance.

Bennett (2010) investigates not only the structure of ownership of the seller in selloff transactions, but also those of the corresponding buyer and the nine different combinations that may arise. He distinguishes between widely held firms, large outside ownership and large inside ownership. Regarding the ownership structure of the seller exclusively, the only significant and positive announcement returns occur in the case of a large outside shareholder (2.04%). If the buyer also has a large outside shareholder, the average excess return increases (3.13%); if the buyer is a widely held firm or has large inside shareholders, the average excess return decreases (1.06% (insignificant) and 1.93% respectively). The results for all other possible combinations are insignificant, except for the combination of large inside shareholders on the seller side as well as on the buyer side with an announcement return of -1.5%. Using a cross-sectional regression on the seller's announcement returns, Bennett (2010) observes a significantly positive influence if the buyer has a large outside shareholder and a significantly negative influence if the seller has a large inside shareholder. Interestingly, unlike prior research, the variable 'price disclosure' at the deal announcement is not significant including the ownership variables.

Owen et al. (2010) determine the impact of corporate governance mechanisms on the likelihood of corporate divestitures and their impact on divestiture announcement effects. They find that the likelihood of necessary divestitures is much higher with more effective corporate governance mechanisms such as, for example, strong shareholder rights, large boards or large management ownership, and that the announcement returns are positively related to control mechanisms such as an independent board or blockholders owning a significant amount of a firm's equity.

Brauer and Stüssi (2010) investigate the impact of the timing of a divestiture in a divestiture wave. For a large sample they find that companies divesting early or late in a divestiture wave obtain higher excess returns than companies divesting in-between. In contrast to prior findings, they also observe higher abnormal returns for firms with poor financial performance, but no influence of the relatedness of the divested asset. In a more exhaustive analysis of the same data, Brauer and Wiersema (2012) detect a CAAR of 0.2% for divestitures over a seven-day event window. Moreover, they find two major moderating effects, which are industry munificence[19] and industry dynamism. Whereas in low-munificence industries, the influence of a firm's position in a divestiture wave on share price remains relatively the same, but more positive overall, there is a negative linear relationship for announcement returns in a divestiture wave in dynamic industries.

Clayton and Reisel (2013) find particularly high excess returns for firms with high leverage and firms using the proceeds to repay debt. Combining both variables, the effect becomes even more pronounced. Despite these variables, the relative size and a stock-option based compensation also have a significant positive influence on the announcement returns, in contrast to an increase in corporate focus, growth opportunities or profitability. However, Clayton and Reisel (2013) use monthly returns and the methodology used is not really transparent.

Table 4 summarises the results of the US studies regarding the announcement effects of corporate selloffs.

Study	Sample Period	Sample Size	Event Window	CAAR Divestor
Alexander et al. (1984)	1964-73	53	[-1;0]	0.29%*
Rosenfeld (1984)	1969-81	62	[-1;0]	2.33%***
Hearth & Zaima (1984)	1979-81	58	[-5;5]	3.55%**
Montgomery et al. (1984)	1976-79	78	year [-1;1]	7.27%*[b]
Jain (1985)	1976-78	1068-1062	[-5;-1]	0.7%***
Hearth & Zaima (1986)	1975-82	75	[-1;0]	1.42%***
Klein (1986)	1970-79	202	[-2;0]	1.12%***
Hite et al. (1987)	1963-81	55	[-1;0]	1.66%***
Hirschey & Zaima (1989)	1975-82	64	[-1;0]	1.64%***

[19] "Munificent industries are characterized by an abundance of resources, reduced resource dependencies, and greater opportunity for profitable firm growth […]" (Brauer and Wiersema, 2012, p. 1476).

Study	Sample Period	Sample Size	Event Window	CAAR Divestor
Hite & Vetsuypens (1989)	1973-1985	151[20]	[-1;0]	0.55%**
		468	[-1;0]	1.12%***
Hirschey et al. (1990)	1975-82	75	[-1;0]	1.47%***
Denning & Shastri (1990)	1970-1990	50	[-6;6]	-0.01%[a]
Cakici et al. (1991)	1982-1987	149	[0;1]	1.22***
Sicherman & Pettway (1992)	1970-79	202	[-1;0]	0.92%***
Brown et al. (1994)	1979-1988	62[21]	[-1;0]	0.01%
Servaes & Zenner (1994)	1979-1988	210	[-1;0]	1.08***
Slovin et al. (1995)	1980-91	179	[0;1]	1.7%***
John & Ofek (1995)	1986-88	321	[-2;0]	1.5%***
Lang et al. (1995)	1984-89	93	[-1;0]	1.41%***
Loh et al. (1995)	1980-87	59	[-1;0]	1.50%*
Blumberg & Owers (1996)	1980-90	169	[-1;0]	1.44%***
Datta & Iskandar-Datta (1996)	1983-90	73	[-1;0]	1.05%***
Guedes & Parayre (1997)	1967-87	370	[-1;0]	3.37%***
Borde et al. (1998)	1979-91	111[22]	[-1;2]	2.28%***
Hanson & Song (2000)	1981-95	326	[-1;1]	0.60%**
Kang & Diltz (2000)	1990-94	175	[-1;0]	0.33%[a]
Mulherin and Boone (2000)	1990-99	139	[-1;1]	2.60%***
Datta et al. (2003)	1982-92	113	[-1;0]	1.63%***
Bates (2005)	1990-98	372	[-1;1]	1.20%***
Slovin et al. (2005)	1982-00	258 (cash)	[-1;0]	1.89%***
		69 (stock)	[-1;0]	3.17%***
Hanson & Song (2006)	1981-95	263	[-1;0]	0.56%***
Kiymaz (2006)	1989-02	205	[-1;0]	3.07***
Hege et al. (2009)		93 (cash)	[-1;0]	1.43%***
		37 (stock)	[-1;0]	6.92%***
Benett (2010)	1979-90	332	[-1;0]	0.46%***
Owen et al. (2010)	1997-05	797	[-1;1]	1.57%***
Brauer & Wiersema (2012)	1993-07	226	[-3;3]	0.2%a
Clayton & Reisel (2013)	1990-94	435	month [0]	0.99%*

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively

[a] Unknown level of significance

[b] Based on monthly data

Table 4: Shareholder Value Effects of US Selloff Announcements

[20] MBOs.
[21] Financially distressed firms.
[22] Foreign divestitures.

2.4.3 European Studies

2.4.3.1 European Spinoffs

In one of the first important studies regarding the announcement effects of European spinoffs, Kirchmaier (2003) reported significant positive announcement returns. For a three-day announcement period, the CAAR is 5.4%. Interestingly, Kirchmaier (2003) shows some results that contrast US findings. For example, small spinoffs outperform large spinoffs with a CAAR of 6.4% versus 3.5% respectively. Moreover, countering Hite et al. (1987), the CAAR of aborted spinoff announcements exceeds those of the completed, and in contrast to Vijh (1994), he does not find significant ex-date effects.

Veld and Veld-Merkoulova (2004) studied short-run as well as long-run wealth effects for a sample of 156 spinoffs. Analysing the short-run effects, they observe a CAAR of 2.62%. In line with prior studies, they find that announcement returns are positively related to an increase in corporate focus. For the information asymmetry hypothesis, they do not find evidence. Moreover, the different corporate governance systems in European countries and an increase in geographical focus seem to have no influence on returns. However, the sample size related to the geographical focus variable is fairly small. Analysing the long-run excess returns, they do not find any statistically significant results implying market efficiency. Later, Veld and Veld-Merkoulova (2009) apply the same variables on a meta-analysis of 26 worldwide spinoff studies. The findings mostly support prior results. Returns are to be higher for larger spinoffs, for spinoffs that increase corporate focus, for tax- or regulatory-friendly spinoffs, and interestingly for spinoffs that are announced but not completed. Moreover, they do not find significant differences in returns between US and European studies or between earlier and more recent studies.

For a sample of western European spinoffs, Vollmar (2014) investigates a large set of factors that may influence spinoff performance. On average Vollmar (2014) reports a significant positive shareholder wealth effect of 4.58% at the announcement. Amongst other findings, Vollmar (2014) finds significantly higher abnormal returns for industrial focus-increasing spinoffs, for firms controlled by debt-holders and firms with a good financial performance, as well as firms increasing the transparency through the spinoff.

The market environment, industry affiliation and size of the divestor, as well as an increase in the geographic focus have no effect on shareholder wealth.

2.4.3.2 European Selloffs

Cadiou (1988) analyses a sample of 92 divestitures of French firms between 1980 and 1987. Using weekly returns, he finds a significantly positive abnormal return of 2.52% in the week of the announcement. Distinguishing between firms in financial distress, the selling of non-profitable units, the need for cash to invest and firms refocusing their operations, Cadiou (1988) finds no influence of those factors. However, looking at the weeks [0;1] at least the factors financial distress and refocusing have a significantly positive influence at the 10% alpha level.

The 1990s

Afshar et al. (1992) find a CAAR for their UK sample of 0.86% which is statistically not significant. More interesting are the findings regarding several subsamples. Whereas, as already reported in US studies, the price declaration at the announcement, as well as the relative size of the divested asset, have a significant influence on shareholder returns, the findings for completed versus only intended selloffs are ambiguous. Moreover, they find evidence for the 'bankruptcy avoidance' hypothesis since the abnormal returns are negatively related to the financial strength of the seller.

Kaiser and Stouraitis (1995) provide the first, albeit preliminary, evidence on announcement effects of selloffs in different European countries, analysing a sample of UK, Swedish, French and German firms. They find that similar to the US, the size of the selloff seems to have the greatest impact on divestiture performance. However, in contrast to the US studies, they also find substantially abnormal returns for the period after the selloff announcement and for the period before the announcement (the latter only for continental European firms), which may be due to considerable information leakages. Furthermore, analysing the differences between domestic and foreign divestitures, they introduce a new variable into the divestiture research and find substantial differences between countries. For Germany and especially for France, foreign divestitures are subject to negative abnormal returns.

Also, focusing on the UK, Lasfer et al. (1996) find contrary evidence to Hearth and Zaima (1984) and partially also Sicherman and Pettway (1992) as they detect a superior announcement effect for financially distressed firms versus healthy firms. Their CAAR over a two-day event period yields 2.12% for financially distressed firms, but only 0.49% for the healthy sample. The overall CAAR is 0.82% and significant. Furthermore, excess returns are also influenced by the debt level of the selling company since more debt is seen as a proxy for higher lender monitoring which is regarded as a positive sign by the market.

The results of Corhay and Tourani-Rad (1996) for 133 divestiture announcements in the Netherlands between 1989 and 1993 are mainly a by-product from their investigation on how adjustments of the abnormal returns for GARCH effects influence their magnitude and statistical significance. For the two-day event window [-1;0], Corhay and Tourani-Rad (1996) detect a CAAR of 0.92% which is statistically significant at the 1% level. Correcting for GARCH effects, the CAAR decreases to 0.82%, which is significant at the 5% level. Regarding a three-day event window, the differences become more obvious. Whereas for the generic market model, the CAAR is 0.87%, significant at the 5% level, the CAAR for the GARCH market model becomes insignificant with 0.73%.

In a further study of the French market, Sentis (1996) also confirms the positive announcement effects for selloffs for this market. Regarding the factors influencing shareholder value creation, Sentis (1996) detects a significantly positive effect for the announcement of the transaction price as well as for the degree of debt and a significantly negative influence of a good pre-divestiture performance of the selling firm. Eventual liquidity issues do not have a significant influence.

The 2000s

Wang (2000) investigates the impact of foreign divestitures of UK firms. Despite a positive overall effect, he finds a significantly positive influence for the case when the buyer is from the same country as the divested asset and a significantly negative influence if the buyer is from an English speaking country. As in previous studies, the relative size of the transaction has a positive influence. A good financial performance respectively financial distress of the seller has a positive (negative) impact on the announcement returns. An increase in corporate focus, the level of development of the

country of the divested asset and currency effects, as well as bank debt, have no significant influence.

Studying the largest sample of selloffs so far, Alexandrou and Sudarsanam (2001) find an average excess return for UK divestitures of 0.39% (significant) over a three-day event window. Whereas their findings support the hypothesis that the size of the selloff is positively related to the announcement returns, the remaining findings are either new or contrary to prior findings. Contradicting Lasfer et al. (1996), they find a superior performance for financially strong sellers. Furthermore, enhancing corporate focus as well as selling as part of a strategic programme does not have any influence in their sample. However, it seems to be favourable to sell in an economic recession rather than during a boom. It also seems that divestors could make use of an information asymmetry by selling assets to foreign buyers.

Kaiser and Stouraitis (2001) analyse the shareholder wealth effects of UK selloffs dependent on their motivation. While firms do not experience significant announcement effects if the motivation behind the selloff is to raise cash, to restructure assets without increasing corporate focus, or when no motivation is announced, the effect is positive for focus-increasing selloffs. Regarding the use of the proceeds, there are significant positive effects if the proceeds are paid out to the shareholders or leverage is reduced. Reinvestments of the proceeds through M&A transactions were viewed negatively by the capital market in the 1980s and neutral in the 1990s. For the total sample, the announcement CAAR yields 1.2%.

Clubb and Stouraitis (2002) hypothesise that the profitability of the sale, measured by the transaction price over the ‘value-in-use’ of the divested asset, has a positive influence on the abnormal returns in selloff transactions. In fact, their results show a highly significant relation for that variable. They state that this variable is one of the most significant in divestiture research and explains a major proportion of the excess returns. Moreover, the effect still remains significant when controlling for other variables, such as the motivation, the financial situation, the use of proceeds or the presence of agency costs. Also in this study, an increase in focus is positively related to the announcement returns, as well as the use of proceeds to pay down debt. The divested asset’s return on assets (ROA) is negatively related to the announcement

returns, indicating a positive reaction to the sale of underperforming units. Also, the absolute size of the seller has a negative influence.

Stouraitis (2003) investigates the role of advisors in corporate acquisitions in the UK. He distinguishes between transactions in which the acquirer is not advised, transactions in which the acquirer is advised and transactions in which the advisor invests his own money in the acquisition he advises. Therefore, for the first two forms, he uses advised/not advised interfirm asset sales, for the latter, MBOs. Stouraitis (2003) finds that sellers receive significantly lower announcement returns when the acquirer is advised by an advisor that invests its own money (as is often the case in MBOs), than in interfirm asset sales when the acquirer is advised. Regarding the two subsamples separately, sellers gain more from MBOs where the acquirers are not advised, whereas they gain more from interfirm asset sales where the acquirer is advised. Overall, the abnormal announcement returns are higher for interfirm asset sales than for MBOs, although the difference is not significant. He argues that the findings are a result of insider knowledge by the buying management and higher incentives for the advisors in MBOs. In interfirm asset sales, on the other hand, the acquirers do not have this deep knowledge and, furthermore, the advisors are rather interested in completing the deal at any price since their compensation is often largely based on the completion.

Also focusing on the UK, Gadad and Thomas (2005) explore the sources of abnormal returns by looking at the relative size of the deal, management turnover preceding the asset sale, an increase in corporate focus and a reduction of corporate debt through the sale. In their rather superficial study, they only find a significant positive effect if the seller could reduce its debt through the acquisition. All other variables are insignificant. Overall, the study delivers only weak evidence on the sources of value creation.

Meschi (2005) investigates if the shareholder wealth effects from joint venture (JV) asset sales are different from those of ordinary asset sales. Using a sample of 151 European asset sales, Meschi (2005) stands back from his hypothesis as the announcement effects are significant and positive on average. The results for influencing effects of the reasons for the selloff are rather weak. The motive debt reduction is significantly positive only over a wider event window [-10;10]; the same is true for a refocusing motive. The excess returns for involuntary sales are negative,

although insignificant, and the excess returns of sales of failed JVs are ambiguous with significantly positive announcement returns in the [-1;1] event window and significantly negative announcement returns in the [-10;10] event window.

Mittnacht (2005) investigates the shareholder wealth effects for selloffs and unit buyouts of continental European firms, thereby focusing on Germany, France, the Netherlands, Switzerland and Sweden. The detected positive performance in his sample is not significantly different between selloffs and unit buyouts. For selloffs, the multivariate regression over the two-day announcement period [0;1] shows significant influences of the relative size (positive), the profitability of the parent (negative), and the degree of debt (positive) only. Over a six-day event window [-5;1] losses of the divested unit (positive), as well as an increase in corporate focus (positive), also show a significant influence. Possible synergies on the buyer side have no significant influence on the announcement returns. Regarding unit buyouts, the results are similar but show no influence of an increase in focus and losses of the divested unit. Regarding variables not captured in his multivariate analysis, Mittnacht (2005) finds no influence of the nationality of the divested unit or the buyer, the announcement of the transaction price and the time in an economic cycle.

Also, Cao et al. (2008) study excess returns of UK firms and distinguish between the sale of domestic and foreign subsidiaries. For their sample, they observe a CAAR of 1.23% over a two-day event window, whereby domestic selloffs lead to higher returns than foreign ones (1.44% versus 0.91%) – both statistically significant. Looking closer at the subsample of foreign divestitures, only the US divestitures report significant positive returns. Interestingly, they cannot find any information leakages, as the entire excess return is concentrated at the announcement day; other event windows are almost unexceptionally insignificant. Cao et al. (2008) explain the higher returns for domestic divestitures with investors' difficulties in evaluating the impact of overseas divestitures. The main factors influencing divestiture performance differ between the subsamples. Whereas in the case of domestic divestitures relatively small firms with high growth perspectives gain the highest announcement returns, the relative size of the asset sold is of capital importance in international divestitures. The impact of economic and legal conditions for the latter case is insignificant.

Coakley et al. (2008) study divestitures of foreign assets of UK firms and detect significant positive announcement CAARs of 0.81%. They find positive results for divestitures increasing industrial focus, but significantly larger CAARs for divestitures increasing the "[…] geographical focus on countries with Anglo-Saxon corporate governance […] (Coakley et al, 2008, p. 182). Moreover, they find that poor stock performance in the year prior to the divestiture is related to higher announcement CAARs, for both firms increasing as well as decreasing leverage. Good pre-divestiture performance, in contrast, is associated with insignificant CAARs.

Lee and Lin (2008) investigate the impact of the use of proceeds and financial distress on long-run shareholder wealth. They find that contrary to the short-run results, selling firms experience significant negative excess returns in the long-run. Whereas at the immediate announcement, the significantly positive returns are higher for sellers that reduce debt than for sellers that reinvest the proceeds, there is no statistically significant difference in the long-run. Lee and Lin (2008) argue that in the case of sellers that reinvest their proceeds, the agency costs exceed the potential benefits from the investment and that in the case of sellers that reduce debt, the financial distress also remains after the sale. Moreover, they show that the magnitude of the proceeds has a positive influence on sellers that reduce debt, are in financial distress or have high growth opportunities. However, as in all long-run studies, it has to be questioned whether the measure allows the authors to separate the pure selloff from other corporate or external events. Lee and Lin (2008) nevertheless argue that especially during corporate restructurings, there would be high information asymmetries which would not allow the market to anticipate the consequences of the event properly and immediately.

Also focusing on a sample of UK selloffs, Hillier et al. (2009) detect an abnormal return of 0.75% over a two-day event window. Moreover, they show that the announcement returns are positively related to subsequent changes in operating performance. Although not the primary focus of their research, Hillier et al. (2009) also investigate the announcement returns for subsamples according to the reason for the asset sale and the use of proceeds. For the first subsample, distinguishing between the reasons 'poor performance', 're-focusing', and 'high leverage', the announcement returns are relatively similar (Hillier et al., 2009). Regarding the use of proceeds, it seems that using the proceeds to reduce debt outperforms the subsample of selloffs where the

proceeds are reinvested. However, Hillier et al. (2009) do not provide tests for the significance of the difference in returns nor multivariate analyses.

Ataullah et al. (2010) investigate the influence of large shareholders, the board of directors, especially executive stock ownership, and the use of proceeds on announcement returns. However, their cross-sectional regression of cumulative abnormal returns does not deliver many insights. Ataullah et al. (2010) only find a significant positive influence of CEO stock ownership for the subsample where proceeds are retained in the firm. Other corporate governance mechanisms have no significant influence in their sample. Indeed, the likelihood that the proceeds are not retained in the firm increases with more effective corporate governance mechanisms, except CEO stock options, where there is a significant negative relationship.

Table 5 shows the announcement effects reported for the European selloff and spinoff studies.

Study	Form	Country	Sample Period	Sample Size	Event Window	CAAR Divestor
Cadiou (1988)	Selloff	FR	1980-87	92	Week [-1;0]	2.27%*
Afshar et al. (1992)	Selloff	UK	1985-86	178	[-10;10]	0.86%
Lasfer et al. (1996)	Selloff	UK	1985-86	142	[-1;0]	0.82%***
Corhay & Tourani-Rad (1996)	Selloff	NL	1989-93	133	[-1;0]	0.92%***
Sentis (1996)	Selloff	FR	1988-92	71	[-1]	0.72%***
					[-1;0]	1.05%[a]
Wang (2000)	Selloff	UK	1986-95	165[23]	[-1;0]	0.81%***
Alexandrou & Sudarsanam (2001)	Selloff	UK	1987-93	1941	[-2;0]	0.39%***
Kaiser & Stouraitis (2001)	Selloff	UK	1984-94	590	[-1;0]	1.20%***
Clubb & Stouraitis (2002)	Selloff	UK	1984-94	187	[-1;0]	1.10%[a]
Stouraitis (2003)	Selloff	UK	1984-94	509	[-1;0]	1.30%***
				91[24]	[-1;0]	0.70%
Kirchmaier (2003)	Spinoffs	EU	1989-99	48	[-1;1]	5.40%***

[23] Foreign divestitures.
[24] MBOs.

Study	Form	Country	Sample Period	Sample Size	Event Window	CAAR Divestor
Veld & Veld-Merkoulova (2004)	Spinoff	EU	1987-00	156	[-1;1]	2.62%***
Gadad & Thomas (2005)	Selloff	UK	1985-91	74	[-1;0]	0.66%*
Meschi (2005)	Selloff	EU	1994-02	151[25]	[-1;1]	0.65%*
Mittnacht (2005)	Selloff	EU	1990-02	286	[0;1]	1.42%***
Cao et al. (2008)	Selloff	UK	1992-03	668	[0;1]	1.23%***
Coakley et al. (2008)[c]	Selloff	UK	1986-95	165	[-1;0]	0.81%***
Lee & Lin (2008)	Selloff	UK	1993-97	655	[-1;0]	1.11%[a]
					Year [0;5]	-37.86%***
Hillier et al. (2009)	Selloff	UK	1993-00	413	[-1;0]	0.75%***
Ataullah et al. (2010)	Selloff	UK	1992-05	195	[-1;1]	2.00%***
Vollmar (2014)	Spinoffs	EU	2000-12	83	[-1;1]	4.58%***

*, **, *** indicate statistical significant at the 10%, 5% and 1% level, respectively

[a] Unknown level of significance

[b] Based on monthly data

[c] Represents the same sample as Wang (2000)

Table 5: Shareholder Value Effects of European Divestitures

2.4.4 D-A-CH Studies

There are only few studies analyzing corporate spinoffs in the D-A-CH region, which are characterised by very small sample sizes mostly prohibiting any generalisations. Therefore, the author focuses on the existing studies for selloffs. The samples of these studies are all limited to Germany and were all published after the year 2000.

In one of the first German studies, Löffler (2001) investigates a sample of 141 selloffs, spinoffs and equity carve-outs whereby the sample of the latter two forms is fairly small (n=2, 19). Contrary to the majority of studies, Löffler (2001) observes a negative, but insignificant CAAR of -0.26% during a four-day event window. Looking at the factors influencing the performance, Löffler (2001) claims that focus-increasing divestitures and divestitures of underperforming assets receive higher abnormal returns. However, the evidence therefore is very weak. A good financial condition is positively related to the announcement returns.

[25] JVs.

Eichinger (2001) finds evidence that German divestitures are also shareholder value-creating. The CAAR during the two-day event window for his sample yields 1.09% (significant). Whereas the motive for the divestiture seems to have no influence on share price reactions, he finds that divestitures create significantly more shareholder value when the divested asset and/or the buyer are a domestic company. Moreover, the announcement of the transaction price is also positively related to the excess returns.

Müller-Stewens et al. (2001) analyse 680 selloffs of the 250 largest firms in the D-A-CH region and detect a CAAR of 0.7%. However, the number of cases with positive and negative shareholder wealth effects balances each other. As in the US, they find that the increase in corporate focus in particular is related to the magnitude of announcement gains. Interestingly, there seem to be remarkable differences in divestiture performance between countries. For example, in comparison to other European countries, Müller-Stewens et al. (2001) observe that German corporations create below-average shareholder value with successful divestitures and, at the same time, destroy above-average shareholder wealth with unsuccessful divestitures.

Stienemann (2003) investigates German selloffs, spinoffs and equity carve-outs between 1989 and 2002. Since the sample of spinoffs consists of only three cases, the results can be neglected and meaningful comparisons to selloffs and carve-outs cannot be made. Despite a significantly positive announcement effect, which contrasts the findings of Löffler (2001), Stienemann (2003) only finds a significant influence of the size of the divested unit (measured via proportion of ‘divested employees’) (positive), losses of the divested unit (positive), for domestic instead of foreign divested units (negative) and cash as a means of payment (positive). However, the effects are all detected using different event windows within the [-20;20] period. These results of his multivariate regressions are mostly in line with the univariate findings. According to his univariate analysis, the announcement of the transaction price and an increase in corporate focus seem to have no influence. Though between voluntary and forced selloffs there seems to be a difference in the sense that voluntary selloffs outperform forced ones, the difference is not significant due to the small sample size for forced selloffs. A bad financial constitution of the seller, either measured via debt level or return on equity, seems to have a positive influence, as well as if the buyer is a financial rather than a strategic investor. Although not captured in the later analysis, it should be

mentioned that Stienemann (2003) finds extremely positive results for the instrument of equity carve-outs compared to the other two forms.

Bartsch (2005) studies the shareholder wealth effects of strategic divestitures and their success factors. As assumed, he finds significant differences between the CAARs of strategic versus non-strategic divestitures. The overall CAAR over a two-day period is 2.08%. However, Bartsch (2005) finds that focus-increasing divestitures lead to negative excess returns; the same is true in the case of a CEO change in the three years prior to the divestiture and a bad financial constitution of the parent. Moreover, the announcement of the transaction price and the type of buyer (financial investor versus strategic investor) seem to have no influence.

Ostrowski (2007) mainly tries to research if there are differences between proactive and reactive divestitures. Though reactive divestitures show a higher announcement return than proactive divestitures, the difference between the returns is not significant. However, as for the whole sample, both samples show that the positive announcement effects are corrected in the time following the announcement. In her univariate analysis, Ostrowski (2007) finds no influence of the period and the industry in which the transaction took place, an increase in focus through the divestiture, the stated motive for the divestiture, a change of the CEO, the relative size of the transaction, the profitability of the divested asset, the existence of large shareholders and the type of acquirer of the divested asset. A positive effect is detected for the announcement of the transaction price whereas the quick ratio is negatively related to the announcement returns. An influence of the chosen form for the divestiture cannot be rejected, although the sample size for the latter variable is fairly small. Using a multivariate regression, the profitability of the divested asset (negative) as well as a de-diversification through the divestiture (positive) also have significant influence on the announcement returns. Especially the evidence regarding the relative size of the transaction is contrary to the insights gained from the majority of prior US and UK studies.

Prugovecki (2011) investigates the success factors of selloffs that originated from earlier acquisitions (demergers) by focusing on the operationalization process. Besides the CAAR as a measure of success, which is only of minor importance in his analysis, Prugovecki (2011) uses a set of several other non-financial measures and studies the

correlation between these success measures and attributes of the operationalisation process. Prugovecki (2011) observes an excess return of 2.61%, whereby again, the proportion of positive and negative demergers balances each other. However, Prugovecki (2011) does not give detailed information for his methodology used. Regarding the CAAR as a measure for success, a slower operationalisation process seems to be more favourable in large demerger transactions.

The results regarding the announcement effects of the studies that focus on the German speaking region are presented in Table 6.

Study	Form	Country	Sample Period	Sample Size	Event Window	CAAR Divestor
Löffler (2001)	Selloff	GER	1985-96	141	[-3;1]	-0.26%
Eichinger (2001)	Selloff	GER	1992-97	123	[-1;0]	1.09%**
Müller-Stewens et al. (2001)	Selloff	D-A-CH	1993-98	680	not clear	0.7%[a]
Stienemann (2003)	Spinoff	GER	1989-02	3	[-1;0]	-4.02%
	Selloff			147		0.30%***
Bartsch (2005)	Selloff	GER	1997-03	140	[-1;0]	2.08%
Ostrowski (2007)	Selloff	GER	2002-04	233	[-1;0]	2.96%***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively

[a] Unknown level of significance

[b] Based on monthly data

Table 6: Shareholder Value Effects of D-A-CH Divestitures

2.4.5 Summary of Divestiture Performance Studies

Since the first US studies in the 1980s indicated that divestitures might be net shareholder value creating activities, research on corporate divestitures has steadily developed until today. Over time, the focus of the research has increasingly addressed the origins of this shareholder value creation potential. Now, after three decades of divestiture research, several studies have confirmed the initial findings regarding shareholder value creation. Whereas the CAARs range between 1.32% and 5.56% for spinoffs, the CAARs for selloffs seem to be lower, ranging between 0.20% and 3.55%.

Selloff Studies

Regarding the origins of the abnormal announcement returns in selloff transactions, it seems that particularly the relative size of the divested asset, an increase in the industrial corporate focus, the seller's financial performance and eventual financial distress, the disclosure of the transaction price immediately at the announcement, the intended use of proceeds and certain agency variables influence shareholder value creation.

Independent of the economic region, the relative size of the target in relation to the seller mostly shows a positive influence on abnormal returns. For an increase in the corporate industrial focus, the US studies report a mainly positive influence. However, in recent studies, the effect seems less pronounced. Regarding Europe, an increase in focus mostly has a positive effect on abnormal returns as well, although some studies also report insignificant effects as in the US studies. For the D-A-CH region in particular, the picture looks similar, but it is the only region where even a negative effect of an increase in focus was reported (cf. Bartsch, 2005).

The influence of the financial performance of the seller is mixed. The results for the US are somewhat inconclusive since the findings of a positive influence of financial strength and the findings of no or even a negative influence (cf. Brauer and Stüssi, 2010) balance each other. For European selloffs, the results are mixed as well, but the studies that report a negative influence of financial strength slightly dominate. If the seller is in an acute distress situation, the abnormal returns seem to be higher than if this is not the case, independent of the economic region. Regarding the D-A-CH region, the impact of financial distress was only investigated by Stienemann (2003) who did not find any influence.

The announcement of the transaction price immediately at the announcement, indicating transparency about the terms of the deal, tends to positively influence abnormal returns. Most researchers found either a significant positive or insignificant positive influence. The intended use of proceeds and certain agency variables appear to significantly influence the announcement returns to sellers as well.

Looking at European selloffs, because of the plurality of sovereign states, respectively different economic/regulatory systems on the European continent, the influence of the geographic focus particularly gained importance in divestiture research. Research results regarding the geographic focus are, however, ambiguous. Generally, shareholder value gains of European selloffs seem to be lower than those of US selloffs. Moreover, the few existing German-based studies often suffer from small samples and, hence, have a constrained validity which may explain the inconsistent findings.

Table 7 provides an overview of the central variables investigated in the different selloff studies and summarises the findings.

Author (Year)	Overall effect	Focus increase	Relative size	Parent financial performance	Parent financial distress	Debt level	Subsidiary fin. performance	Price announcement	Foreign assets	Foreign buyer	Agency variables	Form of payment	Use of proceeds	Involuntary selloff	Probability of completion	Type of buyer	Efficiency effects for buyer	Others
US																		
Boudreaux (1975)														(-)				
Montgomery et al. (1984)	+	+	(+)		(+)									(-)				
Alexander et al. (1984)	+																	
Rosenfeld (1984)	+			(-)														
Hearth & Zaima (1984)	+		+	+														
Jain (1985)	+																	
Hearth & Zaima (1986)	+																	
Klein (1986)	+		+					+										
Hite et al. (1987)	+																	
Tehranian et al. (1987)											✓							
Hirschey & Zaima (1989)	+										✓							
Hite & Vetsuypens (1989)	+										×							
Hirschey et al. (1990)	+					×					✓							
Denning & Shastri (1990)	(-)																	
Cakici et al. (1991)	+					×				+								×
Sicherman & Pettway (1992)	+			+				+										
Pashley & Philippatos (1993)	(+)																	(✓)
Brown et al. (1994)	(+)			+									✓					✓
Servaes & Zenner (1994)	+		+															×
Slovin et al. (1995)	+																	

Author (Year)	Overall effect	Focus increase	Relative size	Parent financial performance	Parent financial distress	Debt level	Subsidiary fin. performance	Price announcement	Foreign assets	Foreign buyer	Agency variables	Form of payment	Use of proceeds	Involuntary selloff	Probability of completion	Type of buyer	Efficiency effects for buyer	Others
John & Ofek (1995)	+	+											×			✓	+	
Lang et al. (1995)	+		+	×	×	×							✓					
Loh et al. (1995)	+																	(✓)
Blumberg & Owers (1996)	+									×								
Datta & Iskandar-Datta (1996)	+	+			×								✓					✓
Guedes & Parayre (1997)	+						+											
Borde et al. (1998)	+		+		+				×									✓
Hanson & Song (2000)	+		+								✓							
Kang & Diltz (2000)	(+)																	
Mulherin & Boone (2000)	+		+															
Byerly et al. (2003)	(+)	(+)																
Datta et al. (2003)	+										✓							
Slovin et al. (2005)	+											(✓)						
Bates (2005)	+												✓					
Hanson & Song (2006)	+										✓		×					
Kiymaz (2006)	+	×	×	(+)	+	×					✓		✓					✓
Bergh et al. (2008)		+																
Hege et al. (2009)	+		×	×								✓						×
Bennett (2010)	+							×			✓							
Owen et al. (2010)	+										✓							
Brauer & Stüssi (2010)		×		-														✓
Brauer & Wiersema (2012)	(+)	×	×	×		×						×						✓
Clayton & Reisel (2013)	+	×	+	×	+	+					✓							
EU																		
Cadiou (1988)	+	×		×			×						×					
Afshar et al. (1992)	(+)		+	-	+			+							✓			
Kaiser & Stouraitis (1995)			+					×	-			×			×			
Lasfer et al. (1996)	+		+		+	+					✓				×			
Corhay & Tourani-Rad (1996)	+																	
Sentis (1996)	+			-	×	+		+										
Wang (2000)	+	×	+	+	-	×												✓
Alexandrou & Sudarsanam (2001)	+	×	+	+														✓
Kaiser & Stouraitis (2001)	+	+	+				×						✓					
Clubb & Stouraitis (2002)		+	+		+		-						✓				+	

Author (Year)	Overall effect	Focus increase	Relative size	Parent financial performance	Parent financial distress	Debt level	Subsidiary fin. performance	Price announcement	Foreign assets	Foreign buyer	Agency variables	Form of payment	Use of proceeds	Involuntary selloff	Probability of completion	Type of buyer	Efficiency effects for buyer	Others
Stouraitis (2003)	(+)																	✓
Gadad & Thomas (2005)	+	×	×		+													×
Meschi (2005)	+	(+)											(✓)	(-)				×
Mittnacht (2005)	+	+	+	-		+	-	×	×	×			×					
Cao et al. (2008)	+		×						(-)									
Coakley et al. (2008)	+	+		-					+									
Lee & Lin (2008)	(+)												✓					
Hillier et al. (2009)	+	(+)		(-)		(+)							(✓)					
Ataullah et al. (2010)	+										✓		✓					
D-A-CH																		
Löffler (2001)	(-)	+	×	×			×				×							✓
Eichinger (2001)	+	×						+	-	-								
Müller-Stewens et al. (2001)	(+)	(+)																
Stienemann (2003)	+	×	+	×	×		-	×	+			✓		×		✓		
Bartsch (2005)	+	-		+				×								×		✓
Ostrowski (2007)	+	+	×			+	-	+			×					×		×
Prugovecki (2011)	(+)																	

Key	
✓	Significant influence
×	No, ambiguous, or insignificant influence
+	Significantly positive influence
-	Significantly negative influence
(parentheses)	Significance unclear
Agency variables	Long-term compensation plans, ownership structure, MBOs & managerial self-dealing, bank debt, agency costs of free cash flow…
Others	Industry, form of divestiture (i.e. horizontal, vertical etc.), capital market/macroeconomic development (boom, recession etc.) asset liquidity, takeover defence, life cycle stage, wealth transfer from bondholders to shareholders, tax reforms, exchange rate changes, industrial classification of country…

Table 7: Investigated Influencing Factors in Selloff Studies[26]

Spinoff Studies

Looking at the origin of shareholder value creation in spinoff transactions, the number of factors investigated is still at a considerably low level in comparison to selloff studies. The central variables investigated are again an increase in the corporate industrial focus, the relative size and a possible wealth transfer from bondholders to shareholders. An increase in focus and the relative size tend to have a positive effect on

[26] Illustration based on similar tables presented by Meschi (2005), Mittnacht (2005) and Fischer et al. (2013).

the abnormal returns in spinoff transactions as well. The evidence for the wealth transfer hypothesis is rather sparse. Table 8 summarises the central results from spinoff studies.

Author (Year)	Overall Effect	Involuntary spinoff	Focus increase	Relative size	Wealth transfer	Probability of completion	Others
US							
Miles & Rosenfeld (1983)	+			+			
Hite & Owers (1983)	+	?		+	×		✓
Schipper & Smith (1983)	+				×		
Rosenfeld (1984)	+						
Cusatis et al. (1993)	(+)						
Vijh (1994)	+						
Allen et al. (1995)	+		×	+			
Slovin et al. (1995)	+						
Seward & Walsh (1996)	+						
Daley et al. (1997)	+		+				
Desai & Jain (1999)	+		+				
Krishnaswami & Subramaniam (1999)	+						✓
Burch & Nanda (2003)	+		×				
Maxwell & Rao (2003)	+				✓		
Ahn & Denis (2004)	(+)						✓
Marquette & Williams (2007)	+						
EU							
Kirchmaier (2003)	+			-		-	
Veld & Veld-Merkoulova (2004)	+						
Veld & Veld-Merkoulova (2009)	+		+	+		+	
Vollmar (2014)	+		+				✓

Key	
✓	Significant influence
×	No, ambiguous, or insignificant influence
+	Significantly positive influence
-	Significantly negative influence
(parentheses)	Significance unclear
Others	Industry, form of divestiture (i.e. horizontal, vertical etc.), capital market/macroeconomic development (boom, recession etc.) asset liquidity, takeover defence, life cycle stage, wealth transfer from bondholders to shareholders, tax reforms, exchange rate changes, industrial classification of country…

Table 8: Investigated Influencing Factors in Spinoff Studies[27]

To summarise, divestitures can be regarded as value-creating corporate activities. Although the different studies partially provide contrasting evidence while investigating the factors influencing excess returns, it seems that an increase in corporate focus and the relative size of the divested asset are positively related to the announcement gains.

[27] Illustration based on similar tables presented by Meschi (2005), Mittnacht (2005) and Fischer et al. (2013).

The evidence for many other factors (such as bondholder expropriation, the financial condition of the divestor, the use of proceeds or the geographical focus) is ambiguous or not meaningful due to an insufficient sample, e.g. for the form of payment or the timing issue. Moreover, most regression analyses reveal that the analysed factors only explain a small proportion of the variation in shareholder value gains. Generally, it seems that spinoffs are superior to selloffs in terms of creating shareholder value and that European and especially German divestitures underperform their US counterparts, although the research in terms of number of studies and investigated factors in those countries lags substantially behind the US. This emphasizes the need for an in-depth investigation of the D-A-CH region. Also, the factors influencing excess returns differ between the countries. Finally, the research shows that M&A evidence cannot simply be transferred on divestitures, i.e. divestitures do not just represent the reverse of M&A.

3 Research Hypotheses and Theoretical Framework

The following chapter addresses the research questions and corresponding hypotheses to be tested in this thesis. The hypotheses are derived from previous empirical research, which is extensively represented in chapter two, and are applied to the underlying sample. Besides the first hypothesis regarding the overall effect of corporate divestitures on shareholder wealth, they solely refer to selloffs as the final sample for spinoffs is too small to draw any statistically valid inferences. The hypotheses are classified in seller related hypotheses and deal related hypotheses. However, a clear distinction is not always possible. Where in doubt, the author uses his personal judgement.

3.1 Overall Effect

The central research question of this thesis is whether corporate divestitures in the D-A-CH region, more precisely corporate selloffs and spinoffs, on average create shareholder value. As shown in the previous chapter, the majority of studies come to the conclusion that selloffs as well as spinoffs show significantly positive effects at and around the announcement date. The magnitude of the value created seems to be slightly higher for spinoffs than for selloffs. The observed positive effect is in line with the assumption that in an efficient market managers act in the interest of their shareholders and seek to maximise shareholder value. Although the studies for the D-A-CH region are rather sparse, cover only small timeframes, contain relatively few cases, and moreover, are ambiguous in their results regarding shareholder value creation (cf. Löffler, 2001; Eichinger, 2001; Stienemann, 2003; Bartsch, 2005; Ostrowski, 2007; Vollmar, 2014), the author hypothesises that previous empirical findings, mainly from the US and the UK, can be transferred to the D-A-CH region. Hence, the author expects the selloffs and spinoffs in this sample to create shareholder value on average.

Hypothesis 1
Corporate selloffs and spinoffs of publicly traded companies located in the D-A-CH region on average create significant value for their shareholders.

As will be described in the methodology chapter, the shareholder value creation will be measured using abnormal stock returns surrounding the divestiture announcement using event study methodology in order to allow for comparisons with previous research.

3.2 Deal Characteristics

3.2.1 Selloff Motive

3.2.1.1 Increase in Corporate Focus

Increase in the Corporate Industrial Focus

One of the most often stated reasons for divestitures and also one of the most researched factors that may influence divestiture performance is an increase in the corporate industrial focus of the divesting company as a result of the transaction. The majority of researchers find a significantly positive relationship between divestitures of assets unrelated to the core business of the divesting company and the abnormal returns at the announcement (cf. i.a. Afshar et al., 1992; John and Ofek, 1995; Kaiser and Stouraitis, 1995; Datta and Iskandar-Datta, 1996; Daley et al., 1997; Desai and Jain, 1999; Löffler, 2001; Bergh et al., 2008; Coakley et al., 2008). However, there are also some authors that do not support the finding of a positive effect, for example Wang (2000), Alexandrou and Sudarsanam (2001), Eichinger (2001), Brauer and Stüssi (2010) and Clayton and Reisel (2013). Bartsch (2005) even finds a negative relationship.

The central argument for a positive wealth effect of an increase in corporate focus is based on the resource-based view, which goes back to Penrose (1959), but did not receive a lot of attention until the work of Wernerfelt (1984). Montgomery and Wernerfelt (1988), in one of the first empirical research projects, submit empirical support that firms with specific resources gain the highest returns when they transfer their excess resources to the markets close to the core business. On the other hand, the more widely a firm diversifies, the more average returns decline. Hence, unrelated diversification in particular seems to be harmful in regard to returns. Related diversification, however, can be even more beneficial than a completely focused

strategy as firms can employ their excess resources across related businesses to realise additional returns (Wan et al., 2011; Montgomery and Wernerfelt, 1988).

Besides the resource-based view, the principal-agent theory can also serve as a theoretical framework for corporate divestitures increasing the seller's industrial focus. Going beyond the classical shareholder-manager (principal-agent) relationship, Bolton and Scharfstein (1998, p. 97) argue that a firm should instead "[…] be understood as being comprised of (at least) two tiers of agency relationships […]." A two-tier agency relationship means that there is also a relationship between headquarters and different divisional managers. The main issue regarding diversification lies in the efficiency of internal capital markets. Bolton and Scharfstein (1998) summarise that recent research suggests that internal capital markets do not work very efficiently which is supported by the trend of dismantling conglomerates. Kaplan and Weisbach (1992, p. 107) come to the conclusion that "[…] diversifying acquisitions are [much] more likely to be divested than related acquisitions […]." Bolton and Scharfstein (1998) believe that the main reason for this lies in the fact that capital allocation across divisions is a result of politics, since the managers in the headquarters are only agents. Hence, capital may be allocated in a 'dysfunctional socialism' way regardless of a division's ability to use the resources efficiently rather than in a 'Robin Hood' way by allocating money from cash cows to poor divisions with good growth perspectives (Bolton and Scharfstein, 1998).

Following this argumentation, focus-increasing divestitures can serve as an instrument to reduce a possible overdiversification or unrelated diversification and allocate the freed-up resources to higher valued uses in the core or related businesses. Negative synergies between the different divisions, as well as capital misallocations through the internal capital market, are reduced and efficiency is improved. Thus, the author also expects a positive effect of an increase in corporate focus on shareholder value creation.

Hypothesis 2

An increase in the corporate industrial focus on average has a significantly positive impact on shareholder wealth creation.

In order to operationalise an increase in corporate focus, the author uses two different measures. The first measure is the announced motive by the management – a subjective view from a managerial standpoint. As the announced motive may be flawed and unreliable, the author also uses an objective measure. Therefore, a divestiture is regarded as focus-increasing if the divested asset's two-digit SIC code is different from the divestor's core or primary two-digit SIC code. Looking at the two-digit SIC code will ensure that only the divestiture of unrelated assets is considered as focus-increasing. This procedure is in line with previous research (cf. John and Ofek, 1995; Daley et al., 1997; Desai and Jain, 1999; Bergh et al., 2008; Brauer and Wiersema, 2012; Vollmar, 2014).

The expected positive impact of an increase in the industrial focus of the seller should be even more distinct the higher the seller is diversified. In order to account for the degree of diversification, Comment and Jarrell (1995) suggest different measures for diversification, amongst others the commonly used Herfindahl index and the number of four-digit SIC codes assigned by Compustat. Since the segmental data needed for the calculation of the Herfindahl index is not available or is at least incomplete for the majority of cases, the use of this (probably best) proxy for diversification is not possible. Hence, the author has to rely on the also suggested use of the number of four-digit codes. However, the author instead refers to the number of two-digit SIC codes to capture only unrelated diversification. Therefore, an interaction term for the effect of an increase in focus on abnormal returns dependent on the degree of diversification of the seller was created. The number of two-digit SIC codes is taken from the Thomson Financial database.

Hypothesis 3
The degree of diversification of the seller on average has a significantly positive effect on shareholder wealth creation of selloffs that increase the seller's industrial focus.

Related to the possible effect of an increase in focus, the author also investigates the effect of strategic shifts, respectively major corporate restructurings. This can be seen as a more radical increase in corporate focus or even a complete change in corporate focus. The theoretical framework behind an assumed positive effect on shareholder wealth of such transactions is again the resource-based view and the assumption that the resources

of the divesting firm are transferred to higher valued uses. Regarding this variable, the author has to rely on the announced purpose of the parent company, press releases or news articles.

Hypothesis 4

A major restructuring, respectively a complete strategic shift in the corporate focus, on average has a significantly positive impact on shareholder wealth creation.

Increase in the Geographic Corporate Focus

In the same way as the industrial focus, changes in the geographic focus may influence shareholder wealth created through corporate divestitures. Veld and Veld-Merkoulova (2004) argue that focus-increasing divestitures can be both, shareholder value-destroying and enhancing. Reasons for a possible reduction in the firm's value through divestitures increasing the geographic focus are that (1) divestitures may result in decreasing economies of scale regarding production, (2) divestitures may be a sign of a prior mistake, and (3) a firm may weaken its position toward internationally oriented competitors (Veld and Veld-Merkoulova, 2004). On the other hand, the argumentation regarding the principal-agent theory in terms of cross-subsidising to inefficient divisions, as well as regarding the resource-based view in terms of overdiversification, is also valid for an increase in geographical focus. Additionally, Veld and Veld-Merkoulova (2004) mention that an increase in the geographical focus results in reduced complexity and lowers monitoring and coordinating costs.

This contrasting argumentation is reflected in the empirical evidence. Whereas Coakley et al. (2008) for Europe, and Stienemann (2003) for Germany, find a significantly positive effect of the disposal of foreign assets, Eichinger (2001) for German selloffs, and Veld and Veld-Merkoulova (2004) for European spinoffs, report a significantly negative influence of the disposal of foreign units. Borde et al. (1998) for US selloffs, as well as Vollmar (2014) for European spinoffs, do not report a significant influence. Thus, the author does not expect an influence of an increase in the geographic focus on abnormal returns.

Hypothesis 5

An increase in the corporate geographic focus on average has no significant impact on shareholder wealth creation.

In order to capture an increase in geographic focus, the author uses two different measures. Firstly, a divestiture is considered as geographic focus-increasing if the divested asset is a foreign asset; secondly, in order to capture a 'geographic overdiversification', the author considers a divestiture as focus-increasing if the divested asset is based in a country outside of Europe.

3.2.1.2 Financial Distress

An additional often stated motive for divestitures is financial distress, either of the seller itself or of the asset sold. As the argumentation for a possible impact of financial distress is related to the impact of the financial performance of the seller, which will be described later in more detail, the author only briefly describes the two contrasting views on this issue.

The central question is whether a possible distressed financial situation is already known before the selloff announcement. If this is the case, the selloff may lower the probability of a possible bankruptcy and the costs related to this (Lasfer et al., 1996). Thus, financial distress should have a positive impact on shareholder wealth creation. If the distressed situation is not anticipated prior to the transaction, the selloff announcement may initially reveal a precarious situation, which should result in lower abnormal returns at the announcement (Afshar et al., 1992). Furthermore, a weakened negotiating position speaks for lower abnormal returns as well (Hearth and Zaima, 1984).

In order to capture the impact of financial distress on shareholder value creation, the author uses two different measures. As in the case of an increase in industrial focus, the author first uses a subjective measure referring to the stated motive of the divestiture by the seller. Second, the author applies an objective measure creating a binary variable based on the z-score as an indicator for financial distress. The z-score was developed by

Altman (1968) and tries to predict if a manufacturing company will become bankrupt within the next two years. In order to include non-manufacturing companies as well, the author uses the modified z''-score model, which minimises potential industry effects that would be included using the original model which contains the asset turnover (Altman, 2000). The z''-score is defined as:

$$(1) \quad z'' = 6.56 \cdot X_1 + 3.26 \cdot X_2 + 6.72 \cdot X_3 + 1.05 \cdot X_4$$

and indicates financial distress for a z''-score below 1.1 (Altman, 2002). The parameters are defined as:

X_1=Working Capital / Total Assets
X_2=Retained Earnings / Total Assets
X_3=Earnings before Interest and Taxes (EBIT) / Total Assets
X_4=Market Value of Equity / Book Value of Total Liabilities

Additionally, the cases where the z''-score indicates financial distress are manually amended by cases where the financial distress of the seller is publicly known, for example if the seller is in bankruptcy proceedings, because in such cases, the calculation of the z-score was partly not possible due to missing financial data.

Following the argumentation of a weakened negotiating position in the case of financial distress and, thus, the pressure to eventually accept lower prices, the author expects a negative impact of financial distress on the announcement returns.

Hypothesis 6
The announcement that a selloff is motivated by financial distress on average has a significantly negative impact on shareholder wealth creation.

3.2.1.3 Regulatory Issues

Some selloffs are not undertaken voluntarily, for example in the case of divestitures forced by antitrust authorities, due to regulatory issues or changes in legislation. Those involuntary divestitures forced by antitrust authorities result in reduced market power and a loss of synergies of the seller. Changes in legislation erode the profitability of the divested asset or can even result in a complete frustration of purpose of the divested assets. Hence, a profitable selloff of such assets is unlikely, therefore the announced reason of 'regulatory issues' is expected to have a negative impact on shareholder value creation. In line with the argumentation provided, Boudreaux (1975) and Montgomery et al. (1894) for the US and Meschi (2005) for European selloffs find negative average abnormal returns for involuntary divestitures, however, the findings are insignificant, which may be caused by small samples in all three cases. Regarding the D-A-CH region Stienemann (2003) tests for this characteristic but does not find any influence on abnormal returns. In order to capture selloffs undertaken for that reason, the author relies on the announced purpose of the parent company, press releases or news articles.

Hypothesis 7
The rationale that selloffs are forced by antitrust authorities, regulatory issues or changes in legislation on average has a significantly negative impact on shareholder wealth creation.

3.2.1.4 Further Motives

This thesis focuses only on the motives mentioned previously. However, sellers also report a range of other motives such as 'sale and leaseback' transactions or 'build and sell' business models. For these motives, the author only reports their impact on abnormal returns for the sake of completeness, but does not investigate them in more depth.

3.2.2 Use of Proceeds

According to previous research, the use of proceeds from selloff transactions seems to have a significant influence on shareholder wealth creation (cf. i.a. Brown et al., 1994; Lang et al., 1995; Datta and Iskandar-Datta, 1996; Kaiser and Stouraitis, 2001; Bates, 2005; Kiymaz, 2006; Lee and Lin, 2008; Ataullah et al., 2010). The management of the divesting company generally has three different possibilities: (1) the company retains the proceeds and reinvests them in existing or new businesses or projects, (2) it uses the proceeds to reduce debt, or (3) it allocates the proceeds to its shareholders through dividend payments or stock repurchases. Especially in respect to the forms of retaining/reinvesting the proceeds or paying down debt, there are two different argumentations in terms of shareholder value creation.

If one follows the resource-based view, reinvesting the proceeds in positive net present value projects, i.e. moving the resources to higher valued uses, should increase shareholder value. Moreover, using the proceeds from asset sales could also be the best way for refinancing, if the company is in financial trouble and refinancing through the capital market or stock issues may be very costly. On the other hand, reinvesting the proceeds can result in substantial agency costs for the shareholders: managers have incentives to invest the proceeds in low return or even negative net present value projects since there may be incentives to grow the firm for reasons related to managerial power, compensation or even prestige (Jensen, 1986). This argument becomes even more important because this reinvested free cash flow is not subject to lender monitoring as in the case of debt (Kaiser and Stouraitis, 2001). Hence, average shareholder creation regarding reinvesting the proceeds of selloffs depends on which of the two arguments outweighs the other.

Using the proceeds to reduce debt mitigates the agency costs of free cash flow as well as agency costs of debt (Lee and Lin, 2008). The latter include the cost of financial distress like high interest rates or even the costs of bankruptcy, a possible asset substitution problem as described by Jensen and Meckling (1976), or the underinvestment problem that results from a debt overhang as described by Myers (1977). However, a reduction of debt to a very low level also lowers the degree of external monitoring through debtholders, which again could increase agency costs. Moreover, Brown et al. (1994)

argue that if financial distress is already very serious, paying out the proceeds to creditors could also be seen as wealth transfer from shareholders to debtholders and result in a negative stock price reaction. Hence, the wealth effects of divestitures where the proceeds are used to reduce debt should depend on the financial situation of the firm. Whereas for healthy firms, using the proceeds to reduce debt may cause new agency costs, financially distressed firms may benefit from an increased flexibility or even through avoiding a possible bankruptcy, unless the situation is already too serious and the distribution of the proceeds to debtholders is perceived negatively by the shareholders due to the wealth transfer argument stated above.

The highest abnormal returns are expected for firms paying out the proceeds to their shareholders. This option not only avoids the possibility of a free cash flow problem, but also serves as a sign for a financially healthy firm where neither funds are needed to finance new projects, nor debt reduction is necessary. In the case of a financially distressed firm, paying out the proceeds to the shareholders may, furthermore, avoid a wealth transfer from shareholders to bondholders.

Although the empirical findings are ambiguous regarding this variable, it seems that firms using the proceeds to reduce debt outperform those that retain/reinvest the proceeds. Indeed, for financially distressed firms, Brown et al. (1994) report a significantly negative effect if the proceeds are used to repay debt. Lang et al. (1995), however, find a significantly positive effect for distressed firms using the proceeds to reduce debt, which is also significantly better than the positive, but insignificant, effect for healthy firms. Companies reinvesting the proceeds experience insignificantly positive (for distressed firms) or even negative (for healthy firms) abnormal returns. Also, in a multivariate model, an intention to reduce debt influences the abnormal return positively. This finding is in line with Kaiser and Stouraitis (2001), Bates (2005) and Kiymaz (2006). Comparing firms retaining the proceeds and firms using them to reduce debt, John and Ofek (1995) and Hanson and Song (2006) do not find a significant difference. Regarding the option of paying out the proceeds to the shareholders, respectively using the proceeds to repurchase stock, Datta and Iskandar-Datta (1996) and Kaiser and Stouraitis (2001) both report a significantly positive effect on abnormal announcement returns. Based on this argumentation, the author expects the highest

returns for divestitures where the proceeds are distributed to the shareholders and the smallest returns for cases where the proceeds are reinvested.

The information regarding the use of proceeds is obtained from the announcement of the divesting company, press releases, or from news articles. In order to test for the proposed relationships, the author uses a categorical variable with the characteristics 'reinvest/retain', 'reduce debt', and 'payout'. Furthermore, binary variables are built for every variable to create the following interaction terms: (1) reduce debt based on the debt level (debt/equity ratio), (2) reduce debt based on the degree of financial distress (z''-score), and (3) reinvest/retain based on the growth opportunities (market-to-book value).

Hypothesis 8

The announced use of proceeds on average has a significant impact on shareholder wealth creation in the sense that abnormal returns are expected to be highest if the proceeds are distributed to the shareholders and smallest if the proceeds are retained within the firm.

Hypothesis 9

The higher the debt level of the divesting company, the significantly higher are the average abnormal returns if the proceeds are used to reduce debt.

Hypothesis 10

The more serious the financial distress of the divesting company, the significantly higher are the average abnormal returns if the proceeds are used to reduce debt.

Hypothesis 11

The higher the growth opportunities of the divesting company, the significantly higher are the average abnormal returns if the proceeds are reinvested or retained by the seller.

3.2.3 Transparency

The most commonly utilised proxy for the transparency of the deal is the disclosure of the transaction price. First of all, if the price is disclosed, the true value of the divested assets is revealed and potential information asymmetries between the management and investors can be removed (Sicherman and Pettway, 1992). Thus, a possible valuation discount can be mitigated. Moreover, it reveals information about the relative size of the deal as an indicator for the degree of restructuring, which will be considered as a separate point later. Kaiser and Stouraitis (1995) argue that the disclosure of the transaction price is a signal for good news, i.e. a good selling price, as managers are likely to announce favourable information but suppress unfavourable information. Despite this, Klein (1986) adds for consideration that the announcement of the transaction price could also serve as a proxy for the likelihood of deal completion since the more information is already disclosed at the initial announcement, the more advanced negotiations should be. However, her analysis denies that investors use the transaction price as an indicator of the likelihood of completion.

According to the argumentation above, the disclosure of transactions details, such as the price, should have a positive impact on the abnormal returns at the announcement. This theoretical conjecture is supported by empirical results of Klein (1986), Sicherman and Pettway (1992), Afshar et al. (1992), Sentis (1996), Eichinger (2001) and Ostrowski (2007), whereas Kaiser and Stouraitis (1995), Stienemann (2003), Mittnacht (2005), Bartsch (2005) and Bennett (2010) do not find a significant influence on abnormal returns.

The announcement of the transaction price is measured using the official press releases on the announcement dates as well as press news on the same date. If no explicit information regarding the price was found the author assumes the price was not disclosed.

Hypothesis 12
The disclosure of the transaction details as the price on average has a significantly positive impact on shareholder wealth creation.

Beyond the disclosure of the transaction price, the author also utilises the announcement of the motive, the use of proceeds, a possible book gain or loss and the form of consideration as transparency variables.

3.2.4 Participation in Buyer's Value Creation Potential

Continuing the corporate focus hypothesis John and Ofek (1995) add that the strategic fit between the asset sold and the buyer should influence abnormal returns. They argue that abnormal returns should be "[…] higher when the buyer has a superior organizational form, [a] comparative advantage in operating the asset, or when the asset was poorly managed by the seller" (John and Ofek, 1995, pp. 121–122) because a part of those value gains will be captured by the seller via premiums in the transaction price. Hence, the seller participates in the value creation potential of the asset sold by transferring the asset to a better owner. Clubb and Stouraitis (2002) argue in a similar manner. According to them, the profitability of the sale, which they define as the difference between the transaction price and the value-in-use of the asset for the seller, should have a dominant impact on abnormal returns. Despite the possibility of overpayment by the buyer due to large free cash flows combined with low growth opportunities (cf. John and Ofek, 1995), a difference between the price paid by the buyer and the value-in-use for the seller should mainly result from the reasons stated above and be the result of a good strategic fit and synergies between the asset sold and the buyer. Clubb and Stouraitis (2002) show that the profitability of the sale has a significantly positive influence on seller abnormal returns, even when controlling for the motivation of the selloff, the use of proceeds and agency costs. Also, John and Ofek (1995) find empirical evidence for their hypothesis and report significantly larger abnormal returns if the asset sold and the buyer are from related industries.

The author follows the argumentation by John and Ofek (1995) and expects that a good strategic fit between the divested asset and the buyer has a positive influence on shareholder wealth creation. The strategic fit is measured as the focus increase by comparing the four-digit SIC codes of the asset sold and the buyer.

Hypothesis 13

The industrial relatedness between the buyer and the asset sold on average has a significantly positive impact on shareholder wealth creation.

In addition, John and Ofek (1995) combine the increase in focus and strategic fit hypothesis and conclude that returns should be highest if the divested asset is unrelated to the seller but related to the buyer, respectively lowest vice versa. To test this hypothesis, an interaction term is created that accounts for those characteristics.

Hypothesis 14

The combination of an increase in the industrial corporate focus and a strategic fit between the buyer and asset sold on average has a significantly positive impact on shareholder wealth creation.

3.2.5 Type of Buyer

Related to the participation in the value creation of the buyer, John and Ofek (1995) argue that if the buyer is a leveraged buyout group, abnormal announcement returns should be higher since the performance of the divested division may be improved by better governance structures, better monitoring or changed incentives. Similar to the participation hypothesis, a part of those efficiency increases will be captured by the seller. This hypothesis is supported by their empirical findings. Ostrowski (2007) also expects higher abnormal returns in the case of financial buyers, but she uses the higher financial resources and, hence, the possibility to outbid strategic buyers, as explanation. Other research argues in the other direction and presumes higher abnormal returns for strategic rather than for financial buyers. Stienemann (2003) and Bartsch (2005) both state that only strategic buyers are in a position to realise synergies and thereby increase the value of the asset sold. Their empirical results, however, do not support this expectation. Hite and Vetsuypens (1989) look at a third form of buyers, i.e. the actual management of the sold divisions. Hite and Vetsuypens (1989) expect management buyouts to yield lower abnormal returns because of agency costs created by a possible absence of ‘arm’s-length bargaining’ and the threat of ‘managerial self-dealing’ at the expense of the parent shareholders (Hite and Vetsuypens, 1989, p. 954). However, Hite

and Vetsuypens (1989) find no support for their hypothesis and report no significant difference between management buyouts and selloffs to strategic investors. Also, Stouraitis (2003) investigates the influence of the management as buyer, although his main focus is on the influence of advisors on acquisition premiums paid to the seller. Excluding the possible effect of an advisor, Stouraitis (2003) finds no significant difference in abnormal returns between management buyouts and interfirm selloffs.

Although the published research so far does not show an unambiguous influence of the type of buyer on abnormal returns, the author expects strategic divestitures to yield the highest abnormal returns, followed by private equity investors and management buyouts on the last position. With this in mind, the author follows the argumentation of Stienemann (2003) and Bartsch (2005) and, furthermore, assumes that if financial investors act as buyers, the assets were probably not interesting enough for strategic investors, and, hence, the bargaining power of the seller was rather weak. Moreover, financial investors specifically search for undervalued assets, which serves as an additional indicator for a relatively low selling price and correspondingly lower abnormal returns. Regarding management buyouts, the author follows the argumentation of Hite and Vetsuypens (1989) and expects them to show the lowest abnormal returns of the three groups of buyers.

Hypothesis 15
Selloffs to strategic investors on average create significantly more shareholder wealth than selloffs to private equity investors and managers via leveraged buyouts.

3.2.6 Form of Payment

Regarding the form of payment, i.e. either cash, shares or a hybrid form, Stienemann (2003) hypothesises that cash deals should create more value for the parent company than share or hybrid deals. Stienemann (2003) argues that buyers are more likely to pay with shares if the management considers the shares of its company to be overvalued, whereas in the case of an anticipated undervaluation cash would be the preferred form of payment. Hence, the shares are subject to a substantial risk of devaluation until their disposal through the seller. Moreover, Stienemann (2003) argues that in share deals the

selloff would not lead to an increased focus since the direct investment in the asset sold is just exchanged against the indirect investment in the portfolio of the buyer. In his multivariate analysis, Stienemann (2003) finds support for his hypothesis showing that cash as a form of payment has a significantly positive influence on abnormal returns. On the other hand, Slovin et al. (2005, p. 2387) suggest that share deals should lead to higher abnormal returns as cash deals because the seller would only accept equity as means of payment if he has favourable "[…] private information about the value of the divested asset and the buyer." In this way, the seller can participate in the value creation potential of the buyer. Hege et al. (2009) argue in a similar way – if the seller has unfavourable private information about the asset sold, he probably chooses the option to take cash from the highest bidder. If the private information is, by contrast, positive, the seller would make a 'take-it-or-leave-it' (Hege et al., 2009, p. 705) counter-offer to the highest bidder that entails shares as a form of payment to participate in the value creation potential of the asset sold under the new owner. Whereas Slovin et al. (2005) find no empirical evidence for their hypothesis, Hege et al. (2009) report significantly higher abnormal returns for share deals compared to cash deals. Controlling for the form of payment, Kaiser and Stouraitis (1995) and Brauer and Wiersema (2012), similarly to Slovin et al. (2005), find no impact on abnormal returns. However, the author considers the 'participation in the value creation potential of the buyer' argument regarding stock as means of payment as rather weak as the sold assets usually represent only a minor proportion of the whole buyer. Also, the argument of favourable private information about the buyer, i.e. an anticipated undervaluation, does not seem to be realistic. If the buyer has the same private information, he would rather pay in cash than in shares. And a situation in which the seller has better private information about the buyer than the buyer itself is rather unlikely. Moreover, the author expects sellers not to sell assets in exchange for shares if they have favourable private information about them but rather in the case of a low bargaining power and thus, a take-it-or-leave-it situation created by the buyer. Hence, the author follows the suggestion of Stienemann (2003) and expects cash deals to yield higher abnormal returns than share deals.

The information about the structure of the payment is obtained from the SDC Platinum database. Because the mode of payment is just available in 47.59% of the cases and in over 90% of those cases, the announced consideration is cash, whereas only one case

represents a pure stock deal, this hypothesis cannot be tested as intended. Therefore, the hypothesis is formulated differently as follows:

Hypothesis 16
Selloffs, where the form of payment is cash, on average create significantly more shareholder wealth than selloffs settled with other or hybrid forms of payment.

3.2.7 Relative Size of the Deal

The relative size of the corporate divestiture, i.e. the transaction value as a proportion of the market capitalisation of the seller, shows a significant positive influence in a variety of empirical studies (cf. i.a. Hearth and Zaima, 1984; Afshar et al., 1992; Kaiser and Stouraitis, 1995; Lasfer et al., 1996; Wang, 2000; Mulherin and Boone, 2000; Alexandrou and Sudarsanam, 2001; Kaiser and Stouraitis, 2001; Mittnacht, 2005). According to Afshar et al. (1992), a significant positive influence of the relative size would support the hypothesis that divestitures are value-creating corporate activities. The reason for a presumed positive influence is that with an increasing relative size, the positive effects of the divestiture purpose, e.g. an increase in corporate focus, should increase in magnitude (Mittnacht, 2005). Hence, this variable can serve as a proxy for the degree of restructuring undertaken by the divestor (Kaiser and Stouraitis, 2001).

Hypothesis 17
The relative size of selloffs on average has a significantly positive impact on shareholder wealth creation.

The relative size is calculated as the proportion of the selling price from the market capitalization of the seller ten days before the divestiture announcement. This procedure shall ensure it obtains an as accurate as possible estimate of the market capitalisation of the seller at the announcement, but avoid that the market capitalisation is influenced by the event itself.

3.3 Seller Characteristics

3.3.1 Efficiency and Growth Opportunities

The efficiency and growth opportunities of the divesting firm should be positively related to the abnormal returns. The more attractive the efficiency and growth opportunities, the better the proceeds from the divestiture can be redeployed. This argument is again based on the resource-based view in the sense that the resources are moved to higher valued uses.

An often-used proxy for the efficiency or growth perspectives of a company is the market-to-book value (Sharma et al., 2013). The market-to-book value itself serves as a proxy for Tobin's q since the calculation of the replacement costs of assets that constitute the denominator in the q-ratio is somewhat sophisticated. They are usually not reported and furthermore, evaluating the market value of debt may be difficult (Perfect and Wiles, 1994). A high correlation between Tobin's q and the market-to-book value allows for its usage as a proxy. Perfect and Wiles (1994) conclude that the market-to-book value, defined as the market value of equity plus the book value of debt divided by the book value of total assets, "[…] may provide acceptable initial estimates if the other estimators are not available" (Perfect and Wiles, 1994, p. 339). Hence, a market-to-book ratio defined as the market value of equity divided by the book value of equity is applied here. This is supported by Adam and Goyal (2008), who report a relationship between the market-to-book ratio as applied here and the growth opportunities, but they also conclude that the original q ratio has the highest explanatory power. Since Adam and Goyal (2008) are concerned that the market-to-book ratio also proxies for corporate performance and leverage, the author will include control variables in the regression model (covered under parent financial performance).

Sharma et al. (2013), furthermore, describe that besides serving as a proxy for efficiency and growth perspectives, the market-to-book value also serves as a proxy for risk in financial research. Yet, in their empirical analysis, they find that corporate efficiency and growth perspectives explain the majority of variation of the market-to-book value, whereas the explanatory power of the factor risk is only small.

Hypothesis 18

The growth perspectives of the parent company on average have a significantly positive influence on shareholder wealth creation.

3.3.2 Seller Financial Performance

Looking at the published empirical evidence, the financial performance of the divesting firm seems to influence shareholder value creation. However, there is no broad consensus on how the financial performance influences abnormal returns. As shown in Table 7 (p. 54) the results are rather mixed and range from a significant positive impact to no impact as well as a significant negative impact. Even if researchers used the same proxies for financial performance, the results are not unambiguous. The reason for these results may again lie in two contrasting argumentations regarding the impact of parent financial performance. As Hearth and Zaima (1984) argue, good financial performance of the divesting firm should influence abnormal returns positively. In the case of selloffs, the seller will have a stronger negotiating position since there is no immediate pressure to sell the assets and, hence, more favourable prices can be negotiated. This argumentation is also stated by others, such as Sicherman and Pettway (1992), Kaiser and Stouraitis (2001), Stienemann (2003) or Wang (2000). The latter describes the divestiture out of a good financial situation as "[…] restructuring for strategic reasons […]" (Wang, 2000, p. 5). This is more a proactive than a reactive action by the management that should be honoured by the capital market. However, Sicherman and Pettway (1992) argue that it may be the other way around and shareholders may react positively to divestitures of financially distressed firms. The probability of default decreases through the divestiture as they may raise desperately needed cash which would have been very costly to raise through the capital market. Afshar et al. (1992) argue in a similar way, but add that divestitures out of a weak financial situation could be interpreted as a 'harbinger of doom' or 'fire sales' (Afshar et al., 1992, p. 120), which again would cause a negative reaction by the capital market. Nevertheless, the author follows the first argumentation and expects higher abnormal returns for firms in a strong financial condition due to their favourable negotiation position.

Often used proxies for financial performance are S&P rankings (cf. Hearth and Zaima, 1984; Rosenfeld, 1984) or the z-score (cf. Afshar et al., 1992; Wang 2000; Alexandrou and Sudarsanam, 2001). The z-score is – also in this thesis – sometimes used as a special variable for financial health or distress. Since the S&P rankings in particular are more oriented towards the past, the author refrains from applying those rankings. Instead, five different measures are applied to capture the financial situation of a divestor. First of all, the stock performance during the estimation period is considered to capture the performance prospects of the divesting firm. This is measured using the buy-and-hold return over the estimation period. Second, the variable return on assets in the year of the announcement is applied to capture the profitability of the divestor. The return on assets is the preferred ratio here as it is not as sensitive to the capital structure of the divesting firm as other ratios (cf. Vollmar, 2014). Third, the quick ratio in the year of the announcement serves as a proxy for the liquidity of the parent. Fourth, the debt/equity ratio accounts for the leverage of the divestor. Fifth, as also used by Afshar et al. (1992), Wang (2000) and Alexandrou and Sudarsanam (2001) the z-score (more precisely the z''-score as explained above) is applied as a measure of financial distress.

Hypothesis 19

The stock performance of the seller in the period before the announcement on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 20

The profitability of the seller on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 21

The degree of liquidity of the seller on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 22

The degree of leverage of the seller on average has a significantly negative impact on shareholder wealth creation.

Hypothesis 23

Financial distress, respectively the probability of bankruptcy of the seller, on average has a significantly negative impact on shareholder wealth creation.

3.4 Further Characteristics

Beyond the aforementioned variables related to the hypotheses stated, several variables arose as by-products from the research such as the economic environment, the nationality of the seller, buyer or asset sold, if the transaction contained the divestiture of an asset directly or indirectly (via a subsidiary) held by the seller, if the selloff led to an increase in the systematic risk and also the industry of the seller. These variables are not specifically motivated but are reported for informational reasons.

3.5 Summary of Hypotheses

Hypothesis 1

Corporate selloffs and spinoffs of publicly traded companies located in the D-A-CH region on average create significant value for their shareholders.

Hypothesis 2

An increase in the corporate industrial focus on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 3

The degree of diversification of the seller on average has a significantly positive effect on shareholder wealth creation of selloffs that increase the seller's industrial focus.

Hypothesis 4

A major restructuring, respectively a complete strategic shift in the corporate focus, on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 5

An increase in the corporate geographic focus on average has no significant impact on shareholder wealth creation.

Hypothesis 6

The announcement that a selloff is motivated by financial distress on average has a significantly negative impact on shareholder wealth creation.

Hypothesis 7

The rationale that selloffs are forced by antitrust authorities, regulatory issues or changes in legislation on average has a significantly negative impact on shareholder wealth creation.

Hypothesis 8

The announced use of proceeds on average has a significant impact on shareholder wealth creation in the sense that abnormal returns are expected to be highest if the proceeds are distributed to the shareholders and smallest if the proceeds are retained within the firm.

Hypothesis 9

The higher the debt level of the divesting company, the significantly higher are the average abnormal returns if the proceeds are used to reduce debt.

Hypothesis 10

The more serious the financial distress of the divesting company, the significantly higher are the average abnormal returns if the proceeds are used to reduce debt.

Hypothesis 11

The higher the growth opportunities of the divesting company, the significantly higher are the average abnormal returns if the proceeds are reinvested or retained by the seller.

Hypothesis 12

The disclosure of the transaction details as the price on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 13

The industrial relatedness between the buyer and the asset sold on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 14

The combination of an increase in the industrial corporate focus and a strategic fit between the buyer and asset sold on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 15

Selloffs to strategic investors on average create significantly more shareholder wealth than selloffs to private equity investors and managers via leveraged buyouts.

Hypothesis 16

Selloffs, where the form of payment is cash, on average create significantly more shareholder wealth than selloffs settled with other or hybrid forms of payment.

Hypothesis 17

The relative size of selloffs on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 18

The growth perspectives of the parent company on average have a significantly positive influence on shareholder wealth creation.

Hypothesis 19

The stock performance of the seller in the period before the announcement on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 20

The profitability of the seller on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 21

The degree of liquidity of the seller on average has a significantly positive impact on shareholder wealth creation.

Hypothesis 22

The degree of leverage of the seller on average has a significantly negative impact on shareholder wealth creation.

Hypothesis 23

Financial distress, respectively the probability of bankruptcy of the seller, on average has a significantly negative impact on shareholder wealth creation.

4 Research Design and Methodology

This chapter describes the research methodology and design. The structure of the chapter is oriented towards the research onion described by Saunders et al. (2016). Whereas section 4.1 briefly describes philosophical issues, section 4.2 addresses the approach to theory development and section 4.3 concentrates on the research strategy. The main part (4.4) of the methodology section explains the event study methodology in detail, including its assumptions and the subsequent statistical tests as well as the multivariate analyses. Section 4.5 describes the sample selection and section 4.6 the data collection process. Finally, section 4.7 provides a description of the variables applied in the thesis.

4.1 Research Philosophy

This thesis follows a pragmatist research philosophy, although the research methodology contains several positivist elements. The event study methodology and the multivariate statistical analyses, which will be described later, as the central element of this research, relate to the stance of natural scientists and the belief that only objective observable phenomena provide reliable facts and can lead to generalisations (Saunders et al., 2016). The researcher tries to detect causal relationships between the abnormal announcement returns of divesting companies and different factors that may have an influence and uses these findings to explain and predict divestiture performance (Sekaran and Bougie, 2013; Saunders et al., 2016). Moreover, as in the underlying research, positivist researchers work deductively and use existing theories to develop their research hypotheses (Saunders et al., 2016; Eriksson and Kovalainen, 2016). Due to the quantitative nature of their data, which often leads to statistical analyses, they try to remain neutral as far as possible to ensure the results are uninfluenced by human bias or interpretation (Saunders et al., 2016). In this regard, Saunders et al. (2016) add that the substance of the data collected can, if at all, be altered to a moderate extent, which is also the case in the underlying research. Furthermore, positivist research generally follows a highly structured methodology in order to allow for replication and to assure scientific rigour (Sekaran and Bougie, 2013).

Whilst all these arguments indicate that the underlying research seems to follow a positivist research philosophy, the author nonetheless adopts a pragmatist's position. The reason for this (besides questioning the benefit of adopting a specific research philosophy at least in this field of research) is that the choice of the research design and methodology is not based on any ontological, epistemological and axiological assumption, but rather on the research problem to be addressed (Saunders et al., 2016). Hence, whereas normally, the adopted research philosophy leads to a specific research design, in this thesis, the chosen research design based on the research questions leads to the adoption of the pragmatist 'philosophy'. The choice of pragmatism is in line with the previous research presented in the literature review as event study methodology is the only method that allows isolating a corporate event from other corporate decisions and, thus, measuring the impact of such an event economically.

This central argument for a pragmatist research philosophy is supported by the point that – as described by Saunders et al. (2016) – the author is aware that no single research methodology is able to entirely answer the research problem. Thus, he has to select the method or the methods that he thinks suit best. Moreover, the author is in agreement with Sekaran and Bougie (2013) who describe pragmatists as seeing the current truth based on the research results as changing over time – and therefore provisional – and also with Saunders et al. (2016, p. 143) who describe pragmatists as being "[…] more interested in practical outcomes than abstract distinctions […]."

4.2 Approach to Theory Development

The approach to theory development addresses the question of whether existing theories are tested based on collected data (deduction), new theory is generated based on collected data (induction) or a combination of both approaches (abduction) (Saunders et al., 2016). Based on this distinction, a clear allocation of the research to one of the three approaches is not possible. However, the main approach to theory development will be of a deductive nature, i.e. the validity of existing theories from previous research that are presented in the literature review is tested for a different geographic region or based on a more representative sample. But the research also contains certain inductive and also abductive elements. Some data regarding corporate divestitures has been collected

and analysed without an underlying theory or purpose and some data originated as by-products. Salience in the research results regarding such data leads to the development of a new theory, and, hence, inductive elements in the research. Moreover, the outcomes of the tests of existing theories may lead to a modification of these theories. This adds some abductive components to the research.

4.3 Methodological Choice and Research Strategy

The pragmatist approach also becomes apparent regarding the methodological choice and the research strategy as they rely on the choice of the tools for the research analysis and not vice versa. Since the main elements for the research analysis, i.e. the event study methodology as the first step and the bi- or multivariate analyses as the second step require quantitative or quantified qualitative data, the methodological choice falls onto quantitative methods. More specifically, the author follows a multi-method quantitative study as he uses more than one data collection technique and source for data collection (Saunders et al., 2016), i.e. collecting data regarding the sample of divestiture cases from different financial databases, press releases and newspaper articles.

The reason for using multiple methods lies in the fact that the different independent sources complement each other in the case of missing data and offer the possibility for triangulation, which confirms the validity and credibility of the research data and, hence, improves the quality of the research results (Saunders et al., 2016).

Indeed, the researcher also collects qualitative data through professional discussions which, however, are conducted at a previous stage of the research to offer some informal triangulation in order to confirm the hypotheses derived from the research described in the literature review. Professional discussions are undertaken with the CEO of a private equity company, an M&A expert from an investment bank and with a valuation expert from a leading consultancy.

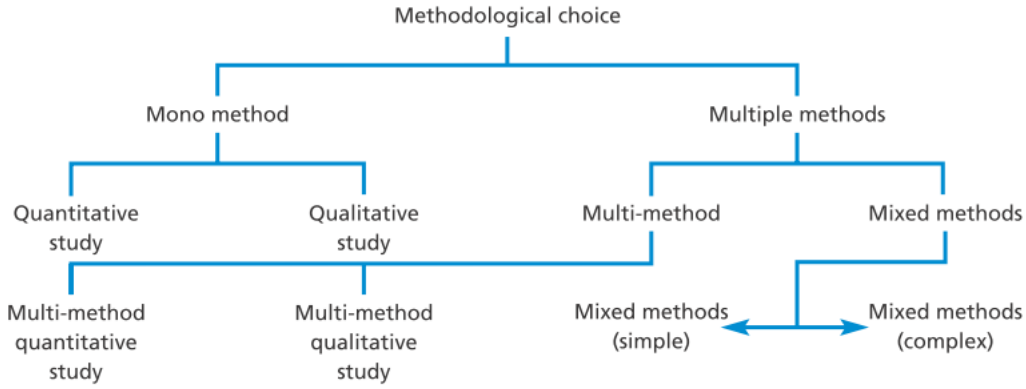

Figure 5: Methodological Choice[28]

If the research had to be classified into the different research strategies, it would fit best to the strategy of archival or documentary research. This is because the research analysis completely relies on secondary data which is drawn from financial databases. Due to the nature of this data, for example share prices or annual reports, there is only a very low threat regarding the reliability and validity of this data. More care needs to be taken regarding the quantified qualitative data such as the announced purposes for divestitures, however, for this data, multiple independent sources are used to ensure reliability and offer triangulation.

The time horizon of the research will be cross-sectional. The research studies a particular phenomenon, i.e. corporate divestitures, at a specific point in time, i.e. the announcement of the divestiture transactions.

4.4 Data Analysis

4.4.1 Event Study Methodology

4.4.1.1 Efficient Capital Markets as Precondition

The event study methodology as the central research methodology of this thesis is based on the assumption of efficient capital markets as a prerequisite. The concept of capital market efficiency was initially extensively described by Fama (1970). According to

[28] Source: Saunders et al., 2016, p. 167.

Fama (1970), a capital market is efficient if "[…] security prices at any time 'fully reflect' all available information" (Fama, 1970, p. 383). Since capital market efficiency is mainly about the adjustment of share prices to new information, it is also called information efficiency. This means that in a market equilibrium, which reflects the expectations of all investors based on the available information, all information is incorporated in the security prices. As soon as there is new information and, hence, expectations change, the prices immediately adjust to that information. Those adjustments are random and identically distributed as the new information is not predictable (Fama, 1970). As soon as the market is in equilibrium again, there are no successive price changes anymore. Fama (1970) remarks that sufficient conditions for capital market efficiency would be that (1) "[…] there are no transaction costs in trading securities […]", (2) "[…] all available information is costlessly available to all market participants […]", and (3) "[…] all agree on the implications of the current information for the current price and distributions of future prices of each security" (Fama, 1970, p. 387). However, since these conditions do not represent the reality, they are fortunately not necessary conditions and capital markets may still be efficient even if these conditions are violated (Fama, 1970; Fama, 1991).

Dependent on which subsets of information are reflected in share prices, Fama (1970) distinguishes between three forms of information efficiency which are called (1) *weak form*, (2) *semi-strong form* and (3) *strong form*.

The *weak form* assumes that the history of share prices, i.e. past returns, is fully reflected in the price. Hence, future prices cannot be predicted using past returns as, for example, in the case of technical analyses and no return exceeding the market return can be generated.

The *semi-strong form* assumes that share prices additionally reflect "[…] other obviously publicly available information (e.g. announcements of stock splits, annual reports, new security issues, etc.) […]" immediately (Fama, 1970, p. 388). This implies that investors are not able to obtain excess capital gains over the market return based on this information as in the case of fundamental analyses.

Finally, the *strong form* of capital market efficiency assumes that insider information, i.e. information of investors or groups with "[…] monopolistic access to any information relevant […]" (Fama, 1970, p. 388) is always immediately reflected in security prices as well. Hence, investors are not even able to make use of insider information. According to Fama (1970), empirical tests strongly support the weak- and semi-strong forms of capital market efficiency; the evidence against the strong form is also sparse.

In a review of the market efficiency literature since the work from 1970, Fama (1991) changes the categories to (1) *tests for return predictability*, (2) *event studies* and (3) *tests for private information*, which is still relevant today. Whereas the first category now also includes some other variables, such as dividend yields or interest rates in order to forecast returns, the latter two categories are just renamed. Hence, event studies, as applied in this thesis, test the semi-strong form of capital market efficiency since they analyse "[…] the adjustment of prices to public announcements […]" (Fama, 1991, p. 1577). In the special case of this thesis, those events are the public announcements of corporate divestitures. As the market is assumed to be efficient, at least in the semi-strong form, the impact of the information on the value of the company should be reflected immediately in the stock prices. Moreover, by analysing eventual unexpected returns preceding public announcements, for example, due to insider trading, event studies are also able to test the strong form of capital market efficiency to a certain extent. Since Fama (1970; 1991) concludes that empirical tests support at least the semi-strong form of information efficiency, i.e. prices adjust immediately to the public announcement of an event, the main prerequisite for event study methodology stands up well. Regarding the strong form, Fama (1991) states that because of the weak evidence, strong inferences about market efficiency cannot be made. Nevertheless, he adds for consideration that insiders often underperform the market, which led to the evolution of passive investment strategies. This may be an indication that the strong form of capital market efficiency also cannot be rejected.

For Europe, Eichinger (2001) supports the hypothesis of semi-strong information efficiency, using the announcement of selloffs in Germany. Also, evaluating prior research on the semi-strong form, he summarises that the semi-strong form cannot be rejected for the German capital market. Mittnacht (2005) comes to a similar conclusion

and Röder (1999) also cannot reject the semi-strong form of information efficiency for the DAX[29]. Regarding the strong form of capital market efficiency, Ostrowski (2007) concludes that there is a widely accepted consensus that the strong form of information efficiency has to be rejected. Though, through a change in German law regarding the trading of securities coming into effect on the 1st August 1994 ('Zweites Finanzmarktförderungsgesetz') insider trading has been prohibited according to §14 WpHG ('Gesetz über den Wertpapierhandel')[30] and, hence, efficiency should increase. Similar regulations also exist in Switzerland (Art. 33e BEHG ('Bundesgesetz über die Börsen und den Effektenhandel')) and Austria (§48b BörseG ('Börsegesetz')). Also, the increasing public access to information and the increasing speed with which information is distributed further increases information efficiency.

Nevertheless, it has to be mentioned that because of the joint hypothesis problem, which states that market efficiency can only be tested together with an asset-pricing model, market efficiency alone is not testable (Fama, 1991). Specifically, this means that one "[…] can only test whether information is properly reflected in prices in the context of a pricing model that defines the meaning of 'properly'" (Fama, 1991, p. 1576). Indeed, using daily data in event studies can mitigate or even eliminate the joint hypothesis problem (Fama, 1991). Furthermore, Fama (1991, p. 1602) reports that over the years of event study research, "[…] some event studies suggest that stock prices do not respond quickly to specific information." These few exceptions, however, would be 'inevitable' regarding the large number of event studies and with these few exceptions he concludes that the evidence is supportive (Fama, 1991).

Based on the empirical evidence and the similarity of capital markets in the D-A-CH region in terms of capital market legislation, which is to a large extent determined by EU directives (also Switzerland generally adapts these directives), the author assumes that the semi-strong form of capital market efficiency is valid for this region.

[29] As will be shown later, the assumption of efficient capital markets in the semi-strong form is furthermore supported by the research results of this thesis.
[30] German Securities Trading Act.

4.4.1.2 The Concept of Event Studies

The assumption of an efficient capital market, at least in the semi-strong form, allows assessment of the influence of the announcement of a corporate event like a divestiture on shareholder value. Since it is assumed that all publicly available information is reflected in the prices, no abnormal return over the market return is possible. The announcement of the divestitures, however, presents new information, which is not yet reflected in the prices. Dependent on the content of the new information, the expectations of the investor's change and the prices quickly adjust to the new expectations. Consequently, until the market is in equilibrium again, the abnormal return over the market return differs from zero. This abnormal return, which is the difference between the expected return based on the available information before the announcement and the actual return through the adjustment of the prices to the new information, can be defined as the shareholder value that is created through the divestiture.

4.4.1.3 Normal and Abnormal Returns

The abnormal return as the economic value of the event is defined as the actual ex post return of a security that exceeds the normal return during the event window. The normal return is the return that would have been expected if the event would not have taken place (Campbell et al., 1997). Hence, the abnormal return is defined as:

$$(2) \quad \varepsilon_{i,t} = R_{i,t} - E\left(R_{i,t}|X_t\right),$$

where $\varepsilon_{i,t}$ is the abnormal return of security *i* for the time period *t*, $R_{i,t}$ is the actual return of security *i* for the time period *t* and $E(R_{i,t}|X_t)$ is the normal return that would have been expected based on the information available before the announcement of the event X_t.

The different approaches in order to estimate the expected normal return can be categorised into statistical models and economic models, whereby the economic models still rely on statistical assumptions. Campbell et al. (1997, p. 154) note that commonly

one assumes "[…] that asset returns are jointly multivariate normal and independently and identically distributed through time."

Probably the three most popular statistical models are the mean-adjusted-return model, the market-adjusted-return model and the market model.

Mean-Adjusted Returns

The mean-adjusted-return model is probably the least complex model. It assumes that the ex ante expected return for a security *i* is constant and equal to its predicted ex post return. This constant (mean) return μ_i can differ between different stocks (Brown and Warner, 1980). Hence, the normal return is defined as:

$$(3) \quad R_{i,t} = \mu_i + \varepsilon_{i,t}$$
$$\text{with } E[\varepsilon_{i,t}] = 0 \text{ and } Var[\varepsilon_{i,t}] = \sigma_{\varepsilon_i}^2,$$

where $R_{i,t}$ is the return of security *i* in the period *t*, μ_i is the mean return of security *i*, $\varepsilon_{i,t}$ is the unexpected, abnormal or disturbance term, and $\sigma_{\varepsilon_i}^2$ is the variance of the abnormal return. Campbell et al. (1997) point out that although the mean-adjusted-return model is probably the simplest model, it often leads to results similar to more complex models since the variance of the abnormal returns is in many cases not reduced by more complex models.

Market-Adjusted Returns

In contrast to the mean-adjusted-return model, the market-adjusted-return model assumes that the "[…] *ex ante* expected returns are equal across [different] securities, but [do not have to be] constant for a given security" (Brown and Warner, 1980, p. 208). The normal return is defined as:

$$(4) \quad R_{i,t} = R_{m,t} + \varepsilon_{i,t}$$
$$\text{with } E[\varepsilon_{i,t}] = 0 \text{ and } Var[\varepsilon_{i,t}] = \sigma_{\varepsilon_i}^2,$$

where $R_{i,t}$ is the return of security *i* in the period *t*, $R_{m,t}$ is the return of the market portfolio in the period *t*, $\varepsilon_{i,t}$ is the abnormal return and $\sigma_{\varepsilon_i}^2$ is the variance of the abnormal return. Theoretically, the market portfolio consists of every type of assets that

exist in the world, relatively weighted. As such a portfolio does not exist in reality, event study methodology usually draws on broad stock indices like the S&P 500 in the US or the FTSE 100 in the UK. The advantage of the market-adjusted-return over the mean-adjusted-return model is that it removes market-wide movements and thus leads to better results in terms of isolating the pure effects of the respective event.

Market Model

The market model is a derivative of the market-adjusted-return model. It "[…] relates the return of any given security to the return of the market portfolio […]" (Campbell et al., 1997, p. 155) and is defined as:

$$(5) \quad R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$
$$\text{with } E\left[\varepsilon_{i,t}\right] = 0 \text{ and } Var\left[\varepsilon_{i,t}\right] = \sigma_{\varepsilon_i}^2,$$

where $R_{i,t}$ is the return of security *i* in the period *t*, $R_{m,t}$ is the return of the market portfolio in the period *t* and $\varepsilon_{i,t}$ is the abnormal return. α_i, β_i and the variance of the abnormal return $\sigma_{\varepsilon_i}^2$ are the parameters of the market model. In contrast to the market-adjusted-returns, the market model does not just remove the market-wide movements, but the proportion of the return of a given security that is in fact related to market-wide movements. Hence, the market-adjusted-return model represents a market model with $\alpha_i = 0$ and $\beta_i = 1$. Campbell et al. (1997) argue that the market-adjusted-return model is advantageous when there is limited data availability for the estimation of the market model parameters as, for example, in the case of initial public offerings. Otherwise, the market model, which presents the most commonly used one-factor model in divestiture research, should be applied and other restricted models, like the market-adjusted-returns, should only be used as a 'last resort' (Campbell et al., 1997).

In addition to these models, there are a number of other statistical models that have been developed over the years, one-factor models such as the market model and also multifactor models. Other factors that are included in the models are, for example, industry indices, the market capitalisation, the book-to-market ratio or benchmark portfolios that consist of peers of similar size. Campbell et al. (1997, p. 156) summarise that the gains of applying multifactor models are limited as "[…] the marginal

explanatory power of additional factors beyond the market factor is small, and hence there is little reduction in the variance of the abnormal return" $\sigma_{\varepsilon_i}^2$.

The two most conventional economic models are the Capital Asset Pricing Model (CAPM) going back to Sharpe (1964) and Lintner (1965) and the Arbitrage Pricing Theory (APT) developed by Ross (1976). Regarding the APT, Campbell et al. (1997) see little practical advantage but an increase in complexity. Regarding the application of the CAPM, Campbell et al. (1997, p. 156) have reservations since "[…] deviations from the CAPM have been discovered [which] casts doubt on the validity of the restrictions imposed by the CAPM on the market model." These restrictions could "[…] be relaxed at little cost by using the market model […]" (Campbell et al., 1997, p. 156). Hence, Campbell et al. (1997) see no reason for preferring the economic models. These findings are in line with the practice in divestiture research using event studies where the market model is commonly used.

For Germany, Eichinger (2001) summarises that the CAPM as well as the APT have no explanatory power for the security returns. In contrast, a certain explanatory power of the market model cannot be rejected. Indeed, the market return, represented by a broad stock index, does not seem to be the only variable that explains security returns. However, the market return is the only variable where a significant influence has been measured yet.[31] Hence, since the research focuses on the D-A-CH region, the author follows Eichinger (2001) and chooses the market model in order to estimate the expected normal return.

4.4.1.4 Parameter Estimation

In order to estimate the expected normal returns during the event window, the parameters α_i and β_i of the market model have to be estimated. As described above, the market model is defined as:

$$(6) \quad R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

[31] Although not explicitly mentioned, the dominant application of the market model in more recent work supports Eichinger (2001) and, hence, the application of the market model in this thesis. Also, in this thesis, the market model has good explanatory power in most cases.

The parameters are estimated using an ordinary least square (OLS) regression over an estimation window with length $L_1 = T_1 - T_0 + 1$ and T_0 as the earliest day of the estimation window and T_1 as the latest day of the estimation window, referring to trading days only (Figure 6).

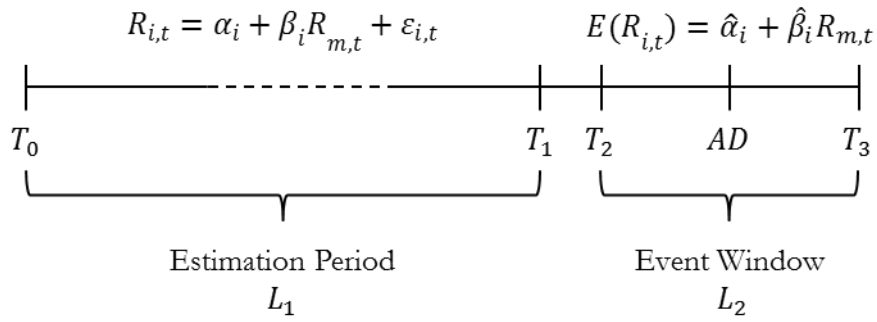

Figure 6: Estimation and Event Period

The estimation window has to be long enough to reduce estimation errors to a minimum but short enough to cover recent parameter changes. Moreover, the estimation window must not overlap with the event window to prevent influences from the event on the estimated parameters of the market model. An estimation window of 200 trading days immediately preceding the event window, which was also applied in comparable studies, should meet those requirements. Hence, the author applies an estimation window ranging from $T_1 = -11$ to $T_0 = -210$ relative to the announcement date. The independent variable in the regression model is represented by the market return. In contrast to many prior studies, the market return is not represented by a broad market index. Instead, the market return is given by an industry index related to the divesting firm. This should increase the explanatory power of the market model. The industry indices are represented by the STOXX® Europe 600 supersector indices, which use the Industry Classification Benchmark (ICB) for the categorisation of the companies. Thus, the same standard (ICB Codes) is used to classify the companies in the sample of the underlying thesis.

4.4.1.5 Calculation and Aggregation of Abnormal Returns

Since, generally, one assumes logarithmised returns to be approximately normally distributed, logarithmised or continuous daily returns are applied in this thesis. Hence, the return of an individual security or the market return is defined as:

$$(7) \quad R_{i,t} = \ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right),$$

where $R_{i,t}$ is the return from day $t-1$ to day t, $P_{i,t}$ is the closing price of the individual security or the market at day t and $P_{i,t-1}$ is the closing price of the individual security or the market at the preceding day $t-1$. Despite some other benefits, for example regarding the homoscedasticity assumption of the residuals, logarithmised returns can be aggregated more easily than discrete returns by simply adding up consecutive returns.

Applying the market model, the abnormal return (AR) of an individual security i at a single day t is defined as:

$$(8) \quad AR_{i,t} = \varepsilon_{i,t} = R_{i,t} - E\left(R_{i,t}\middle|X_t\right) = R_{i,t} - \left(\hat{\alpha}_i + \hat{\beta}_i R_{m,t}\right),$$

whereby X_t (as the conditioning information for the expected return) is the market return and the other parameters are defined as before.
In order to draw conclusions from the observations, the single abnormal returns have to be aggregated in two dimensions: (1) through time and (2) across the cases investigated (Campbell et al., 1997).

Aggregation Through Time
In order to capture the full effect of the announcement of a divestiture, the trading day before the announcement, as well as the trading day following the announcement, are also included in the calculation of the abnormal returns. This is in line with most of the prior research where event windows of two ([-1;0], [0;1]) or three ([-1;1]) days surrounding the announcement date (AD) have been applied. The reason for covering the day before the announcement is to also include potential abnormal returns on the

day before the announcement through information leakages. The day after the announcement is covered for two reasons: first, since it is not clear whether the announcement took place during the day or after the closing of the stock market and, second, to capture a potential overreaction on the announcement day. Hence, the abnormal returns are aggregated to cumulative abnormal returns (CARs) covering the whole event window. Therefore, L_2 denotes the event window length, which is defined as $L_2 = T_3 - T_2 + 1$ with T_2 as the first day of the event window and T_3 as the last day of the event window, again referring to trading days only (Figure 6). Since the daily returns are calculated using the natural logarithm, the individual daily abnormal returns during the event window L_2 ranging from $T_2 = -1$ (first day of the event window) to $T_3 = 1$ (last day of the event window) relative to the announcement date can be added up to the cumulative abnormal return.

$$(9) \quad CAR_{i,(T_2,T_3)} = \sum_{t=T_2}^{T_3} AR_{i,t}.$$

Beyond the event windows also covering the day before and after the announcement ([0], [-1;0], [0;1], [-1;1]), several other event windows surrounding the event announcement ([-2;2], [-3;3], [-5;5], [-10;10]) are analysed in order to improve the reliability and robustness of the results as well as to gain insights into how quickly the prices adjust to the new information, thus testing the capital market efficiency.

Aggregation Across Cases

In order to draw inferences for the whole sample of divestitures analysed in this thesis, the abnormal returns have to be averaged over the sample. Therefore, the individual abnormal returns are averaged assuming an equally weighted portfolio of divesting firms at the respective day of interest. Thus, the formula for the average abnormal return (AAR) is:

$$(10) \quad AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{i,t},$$

whereby N represents the sample size, i.e. the number of event studies, and the other terms are defined as before. However, also regarding the sample average, one is indeed

interested in the cumulative abnormal return over the whole event window. Thus, the cumulative average abnormal return (CAAR) is defined as:

$$(11) \qquad CAAR_{(T_2,T_3)} = \frac{1}{N}\sum_{i=1}^{N} CAR_i.$$

4.4.2 Univariate Tests

4.4.2.1 Parametric Test for Abnormal Returns

In order to test for the significance of the abnormal returns, the null hypothesis H_0 rejects the presence of abnormal returns within the respective event window; the alternative hypothesis H_1 suggests the existence of positive abnormal returns. This hypothesis can be tested for the individual abnormal returns and cumulative abnormal returns as well as for the sample average abnormal returns and cumulative average abnormal returns. For the purpose of this thesis, the latter hypothesis is of primary interest, i.e. that the cross-sectional cumulative average abnormal returns (CAARs) over the entire sample are significantly positive. Hence, the hypotheses read as follows:

$$H_0: CAAR_{(T_2,T_3)} = 0$$
$$H_1: CAAR_{(T_2,T_3)} > 0$$

In order to apply parametric tests on the (average) abnormal returns, in small samples, the abnormal returns have to be independently and identically distributed (iid) as normal. In order to test against the null hypothesis of normality of the abnormal returns, a Jarque/Bera test has been applied with:

$$(12) \qquad JB = \frac{n}{6}\left(S^2 + \frac{(K-3)^2}{4}\right),$$

where n represents the number of observations, S is defined as the skewness and K as the kurtosis of the abnormal returns. The test statistic is asymptotically chi-square distributed with two degrees of freedom (Jarque and Bera, 1980). However, a possible

violation of the normality assumption does not pose a problem here, since according to the Central Limit Theorem, the distribution of average abnormal returns over the entire sample should converge to normality with an increasing sample size (Brown and Warner, 1985). Brown and Warner (1985) confirm this statement for a sample size of 50 securities, whereas for a sample size of 5, they observe a distinct deviation from normality. Hence, Brown and Warner (1985) conclude that parametric tests for the significance of the average abnormal returns are well specified.

In general, the test statistic of the parametric test for abnormal returns is defined as:

$$t_{df} = \frac{\bar{x}}{s_{\bar{x}}},$$

where df denotes the degrees of freedom, $\bar{x}$ stands for the sample mean, i.e. the (cumulative) (average) abnormal returns and $s_{\bar{x}}$ represents the sample standard deviation, i.e. the standard deviation of the (cumulative) (average) abnormal returns. The hypotheses and the test statistics for the individual abnormal returns are summarised in Table 9:

H_0	t_{df}	$s_{\bar{x}}^2$
$H_0: AR_{i,t} = 0$	$t_{AR_{i,t}} = \frac{AR_{i,t}}{S_{AR_i}}$	$S_{AR_i}^2 = \frac{1}{L_1 - 2} \sum_{t=T_0}^{T_1} \left(AR_{i,t}\right)^2$
$H_0: CAR_i = 0$	$t_{CAR_i} = \frac{CAR_i}{S_{CAR_i}}$	$S_{CAR_i}^2 = L_2 S_{AR_i}^2$

The test statistic follows the t-distribution with $L_1 - 2$ degrees of freedom

Table 9: Single Case Test for Abnormal Returns

Here, S_{AR_i} denotes the standard deviation of the abnormal returns in the estimation period that is derived from the OLS market model regression. The hypotheses and test statistics for the cross-sectional (average) abnormal returns are defined as follows in Table 10:

H_0	t_{df}	$s_{\bar{x}}^2$
$H_0: AAR_t = 0$	$t_{AAR_t} = \frac{AAR_t}{S_{AAR_t}}\sqrt{N}$	$S_{AAR_t}^2 = \frac{1}{N-1}\sum_{i=1}^{N}\left(AR_{i,t} - AAR_t\right)^2$
$H_0: CAAR = 0$	$t_{CAAR} = \frac{CAAR}{S_{CAAR}}\sqrt{N}$	$S_{CAAR}^2 = \frac{1}{N-1}\sum_{i=1}^{N}(CAR_i - CAAR)^2$

The test statistic follows the t-distribution with $N-1$ degrees of freedom

Table 10: Cross-Sectional Test for Abnormal Returns

Adjustments of the Cross-Sectional Test

Since the described cross-sectional test for the average and cumulative average abnormal return is prone to event-induced variance increases (heteroscedasticity), some adjustments of the test statistic are necessary. Therefore, Boehmer et al. (1991) introduced the 'standardised cross-sectional test', which will be applied here. This test standardises the abnormal returns, whereby the standard error is adjusted by the forecast error. Under the standardised cross-sectional test, the test statistic for $H_0: AAR_t = 0$ will be denoted by z_{BMP}, where BMP stands for the authors Boehmer, Musumeci and Poulsen, and is defined as:

$$(13) \qquad z_{BMP_t} = \frac{SAAR_t}{S_{SAAR_t}}\sqrt{N},$$

with:

$$(14) \qquad SAAR_t = \frac{1}{N}\sum_{i=1}^{N} SAR_{i,t}.$$

The standardised abnormal return of company i at time t ($SAR_{i,t}$) is defined as in Patell (1976), by:

$$(15) \qquad SAR_{i,t} = \frac{AR_{i,t}}{S_{AR_{i,t}}}$$

with forecast error corrected standard error:

$$(16) \qquad S^2_{AR_{i,t}} = S^2_{AR_i}\left(1 + \frac{1}{L_1} + \frac{\left(R_{m,t} - \bar{R}_m\right)^2}{\sum_{t=T_0}^{T_1}(R_{m,t} - \bar{R}_m)^2}\right).$$

The standard deviation S_{SAAR_t} is defined as in Boehmer et al. (1991) with:

$$(17) \qquad S^2_{SAAR_t} = \frac{1}{N-1}\sum_{i=1}^{N}\left(SAR_{i,t} - \frac{1}{N}\sum_{i=1}^{N} SAR_{i,t}\right)^2.$$

For $H_0: CAAR = 0$, the test statistic reads as follows:

$$(18) \qquad z_{BMP} = \frac{SCAAR}{S_{SCAAR}}\sqrt{N}$$

with:

$$(19) \qquad SCAAR = \frac{1}{N}\sum_{i=1}^{N} SCAR_i.$$

The standardised cumulative abnormal return of company i ($SCAR_i$) is given by:

$$(20) \qquad SCAR_i = \frac{CAR_i}{S_{CAR_i}}$$

and forecast error corrected standard deviation S_{CAR_i}, which corrects the abnormal returns of the individual companies for serial correlation, defined as in Mikkelson and Partch (1988)[32], with:

$$(21) \qquad S^2_{CAR_i} = S^2_{AR_i}\left(L_2 + \frac{L_2^2}{M_i} + \frac{\left(\sum_{t=T_2}^{T_3}(R_{m,t} - \bar{R}_m)\right)^2}{\sum_{t=T_0}^{T_1}\left(R_{m,t} - \bar{R}_m\right)^2}\right).$$

[32] The formula provided by Mikkelson and Partch (1988) slightly differs from the one above as the formula in their paper contains an error in the nominator of the last term in parentheses (cf. Mikkelson and Partch, 1988, p. 122).

The standard deviation S_{SCAAR} is defined as:

$$(22) \qquad S^2_{SCAAR} = \frac{1}{N-1}\sum_{i=1}^{N}(SCAR_i - SCAAR)^2.$$

4.4.2.2 Nonparametric Test for Abnormal Returns

In order to check for the robustness of the results of the parametric significance tests and specifically for smaller subsamples, the author additionally uses a nonparametric significance test. Usually, a generalised sign test as described by Cowan (1992), which can be interpreted as a test for the median CAR, is applied. The generalised sign test examines whether the proportion of positive/negative abnormal returns in the event window differs from the expected proportion of positive/negative abnormal returns based on the proportion in the estimation period. Hence, the expected proportion $\hat{p}$ based on the estimation window is defined as:

$$(23) \qquad \hat{p} = \frac{1}{N}\sum_{i=1}^{N}(\frac{1}{L_1}\sum_{t=T_0}^{T_1} S_{i,t})$$

with $S_{i,t} = 1$ if the sign of the AR is positive and $S_{i,t} = 0$ otherwise. The generalised sign test statistic is

$$(24) \qquad z_{gsign} = \frac{\omega - N\hat{p}}{\sqrt{N\hat{p}(1-\hat{p})}}$$

with ω representing the number of stocks in the event window with a positive CAR. However, this procedure treats $\hat{p}$ as a population parameter and, hence, tests against an assumed population parameter rather than a correctly required estimator derived from a second sample (estimation period). Nevertheless, the generalised sign test leads to reliable results as the estimation period is relatively large compared to the event window. Still, the author instead applies a Fisher's exact test for independence of the samples, i.e. a significant difference in the number of positive abnormal returns in the estimation period and the event window. The reason for this is that, especially for

smaller subsamples, an approximation of the standard normal distribution cannot be assumed. For a similar reason regarding the approximation of the chi-squared distribution, an alternative chi-squared test also cannot be conducted in all cases. Fisher's exact test, however, does not rely on the assumption of any distribution and, hence, does not impose requirements regarding the sample size.

The p-value for a right-tailed Fisher's exact test is calculated as:

$$p = \frac{\binom{a+b}{a}\binom{c+d}{c}}{\binom{n}{a+c}} \tag{25}$$

with a $2x2$ contingency table as follows in Table 11:

	No. positive CARs	No. negative CARs	Row Total
Event Window	a	b	a+b
Estimation Period	c	d	c+d
Column Total	a+c	b+d	a+b+c+d

Table 11: 2x2 Contingency Table – Fisher's Exact Test

This test can similarly be applied to the individual cumulative abnormal returns.

4.4.3 Multivariate Tests

After generating the dependent variable for the research, i.e. the cross-sectional abnormal returns that answer the question of whether corporate divestitures on average create shareholder value, the second step addresses the question of which factors influence this shareholder value creation. For this purpose, the author uses a sequential analysis.

As a first step, the author aims to explain the variation in the abnormal returns by one explanatory variable. Therefore, a simple regression model is applied. In the case of a qualitative explanatory variable, for example the divestiture motive, the author defines a

dummy variable which takes on the value one or zero; one if the variable takes on a specific characteristic and zero otherwise. The bivariate results shall serve as a first indicator for potential significant influences of the respective divestiture characteristics on the abnormal returns.

In a second step, the author aims to explain the variation in the abnormal returns by more than one explanatory variable; therefore, a cross-sectional multiple regression is applied, where qualitative variables are again included as dummy variables in the model. The advantage of a multiple regression over just applying bivariate models is that it allows for explicit control of other factors that simultaneously influence the dependent variable. This is needed as the exogeneity assumption of the simple linear regression, which states that all other factors that influence the dependent variable are uncorrelated with the independent variable, is often unrealistic (Wooldridge, 2009). Hence, since multivariate regression models can incorporate multiple independent variables that may be correlated, one can draw conclusions about causal relationships where simple regression results would be misleading (Wooldridge, 2009). Moreover, including more explanatory variables in the regression model has the advantage that more of the variation in the dependent variable, i.e. the abnormal returns, can probably be explained. As in the case of the univariate tests, the standardised cumulative average abnormal returns are applied as the dependent variable to account for event-induced variance increases.

Technically, the simple as well as the multiple cross-sectional regression test whether, dependent on the formulation of the hypothesis, the beta coefficient for the respective variable is either significantly positive or negative (one-tailed test), or just significantly different from zero (two-tailed test). The null hypothesis claims that the respective coefficient is zero. For reasons of exposition, the author only describes the hypotheses verbally; the corresponding technical hypotheses can be found in the Appendix (Table 115, p. 230).

The parameters of the simple as well as the multiple linear regression are estimated using the OLS technique. In order to obtain unbiased estimators and to apply statistical tests, several assumptions have to be fulfilled. The OLS estimators are the best linear unbiased estimators if the following assumptions 1) to 5) hold:

1) Linearity

The linearity assumption requires the regression model to be linear in its parameters. However, it should be noted that the linearity assumption is not violated if the dependent and independent variables are arbitrary functions of the underlying variables, for example squares or natural logarithms (Wooldridge, 2009). The population model is defined as:

$$SCAAR = \beta_0 + \beta_1 x_1 + \varepsilon \quad (26)$$

in the bivariate case and:

$$SCAAR = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k + \varepsilon \quad (27)$$

in the multivariate case with $\beta_0, \beta_1, \ldots, \beta_k$ as the unknown parameters of interest and ε as the unobservable random error term. In order to test for possible functional misspecifications, a regression model that also includes the quadratics and cubes of the independent variables is used to check if those additional independent variables are significant (Wooldridge, 2009). For the ease of exposition, the following formula shows the univariate case:

$$SCAAR = \beta_0 + \beta_1 x_1 + \beta_2 x_1^2 + \beta_3 x_1^3 + \varepsilon \quad (28)$$

In addition, Ramsey's (1969) regression specification error test (RESET) is applied, which adds polynomials in the OLS fitted values (Wooldridge, 2009). Again, the case of a significance of the additional independent variables implies some functional misspecification of the model (as before, the formula refers to the univariate case for the ease of exposition).

$$SCAAR = \beta_0 + \beta_1 x_1 + \beta_2 \left(\hat{\beta}_0 + \hat{\beta}_1 x_1\right)^2 + \beta_3 \left(\hat{\beta}_0 + \hat{\beta}_1 x_1\right)^3 + \varepsilon \quad (29)$$

2) Random Sampling

The random sampling assumption claims that following the population model in 1) there is a random sample of n observations $\{(x_{i1}, x_{i2}, \dots, x_{ik}, SCAR_i): i = 1,2, \dots, n\}$, which implies that the observations are independent and identically distributed (iid). Hence, the regression model for a particular randomly drawn divestiture case is:

$$SCAR_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \cdots + \beta_k x_{ik} + \varepsilon_i \quad (30)$$

3) No Perfect Multicollinearity

The assumption of no perfect multicollinearity, which only arises in multivariate models, states that none of the explanatory variables is a constant and that beyond the explanatory variables no exact linear relationships exist (Wooldridge, 2009). Here, it is important to note that this does not mean that correlation beyond the explanatory variables is generally prohibited, but a perfect correlation. In this case, an OLS estimation is not possible. According to Wooldridge (2009), this assumption can fail not only if the model is not carefully specified, e.g. through including a constant variable or a variable that is a multiple of another, but also if the sample size is too small. However, imperfect multicollinearity, i.e. a strong linear relationship between independent variables, can also cause problems for the parameter estimation. Although the assumption of no perfect multicollinearity is not violated in such cases, it can still impair the estimation results. Whereas perfect multicollinearity does not cause any problems here, the author checks for a possible imperfect multicollinearity by looking at the variance inflation factors (VIFs). The VIF for a specific coefficient is defined as:

$$VIF_j = \frac{1}{1 - R_j^2} \quad (31)$$

with R_j^2 defined as the R^2 obtained from regressing x_i on all other explanatory variables. Although defining a cutoff value above which imperfect multicollinearity is problematic is arbitrary (Wooldridge, 2009), the author would consider the model to suffer from multicollinearity with VIFs above ten which would be equivalent to an R_j^2 of 90%.

4) Exogeneity

The assumption states that, on average, the value of the error term is zero given any values of the explanatory variables (Wooldridge, 2009):

(32) $E(\varepsilon|x_1, x_2, \dots, x_k) = 0$

This implies that the residual and the explanatory variables are uncorrelated $Corr(x_i; \varepsilon) = 0$ for $i = 1, 2, 3, \dots, k$. There are two main possible issues that can cause a violation of the exogeneity assumption, which are (1) the 'omitted variable bias' and (2) the 'simultaneous equation bias'. The omitted variable bias arises if the model is misspecified by omitting an explanatory variable that is correlated with the included explanatory variables. This issue seems to be of minor importance in a multiple regression due to the possibility to include many explanatory variables in the model. Nevertheless, data limitations can still cause a problem regarding this assumption. Also, in this thesis, some data was unavailable for the author. Through a careful selection process, which was supported by professional discussions with experts in the divestiture field, the author tried to collect an as exhaustive as possible set of potential explanatory variables to reduce the risk of a violation of this assumption to a minimum. However, a possible violation cannot be entirely ruled out. A simultaneous equation bias, i.e. a causal relationship with the dependent variable explaining the independent variable, should not cause any issues in this sample due to the nature of those variables. Hence, the assumption of exogenous explanatory variables should be quite unproblematic.

5) Homoscedasticity

The assumption of homoscedasticity means that conditional on the independent variables, the variance of the residuals is equal. This means that the variance of the residual ε, conditional on the independent variables, is constant for any combinations of outcomes of the independent variables (Wooldridge, 2009):

(33) $VAR(\varepsilon|x_1, x_2, \dots, x_k) = \sigma^2$

In order to test for heteroscedasticity, the Breusch-Pagan test can be used to detect heteroscedasticity by regressing the squared OLS residuals on the independent variables. The F statistic of this regression allows testing of whether the null hypothesis

of homoscedasticity can be rejected (Wooldridge, 2009). In the case of a violation of the Gauss-Markov assumptions, the White test for heteroscedasticity can be applied as an alternative (Wooldridge, 2009). Here, the squared OLS residuals are regressed on the independent variables, the squares of the independent variables and all the cross products. The LM test statistic for heteroscedasticity is defined as $n \cdot R^2_{\hat{\varepsilon}^2}$ and tests that all coefficients except the intercept are zero. The LM statistic is asymptotically χ^2 distributed.

Because the homoscedasticity assumption is violated in most regressions, heteroscedasticity robust standard errors have been calculated. As the sample is large enough, the application of the heteroscedasticity robust standard errors should not cause any problems even if the homoscedasticity assumption is not violated (Wooldridge, 2009).

6) Normality of the Residuals

In order to conduct hypothesis tests about the parameters of the regression model, the assumption of normality of the residuals amends the Gauss-Markov assumptions 1) to 5) to the classical linear model assumptions (Wooldridge, 2009). The residuals have to be independent of the explanatory variables and normally distributed with a mean of zero and variance σ^2 (Wooldridge, 2009). A possible violation of the normality assumption is, however, rather unproblematic in this thesis. If the assumption of a random sampling process holds, i.e. the observations are iid, the Central Limit Theorem indicates that the residuals should converge to normality.

4.5 Sample Selection

The sample of corporate divestitures cases, i.e. selloffs and spinoffs, was drawn from the SDC Platinum M&A database, which was accessed via Thomson ONE Banker. The SDC Platinum database contains over 900,000 worldwide M&A transactions since the 1970s and is backed by Thomson Reuters. The database was also used for comparable studies by other researchers.

The initial selloff sample was drawn up based on the following sequential selection criteria (number of cases in parentheses):

1. Corporate divestitures (302,568) (accessed 22nd November 2015)
2. Date announced: between 1st January 2000 and 31st December 2014 (189,399)
3. Target ultimate parent public status: public (96,330)
4. Target ultimate parent nation: Austria, Germany, Switzerland (5,796)
5. Target ultimate parent primary SIC codes (excluded): Financial D (4,354)
   The following SIC codes are excluded: 6011, 6019, 6091, 6099, 6311, 6321, 6324, 6331, 6361, 6371, 6399, 6411, 619B, 6211, 6221, 6231, 6282, 6289, 6722, 6726, 6732, 6733, 6792, 6794, 6798, 6799, 6162, 6163, 619A, 6512, 6513, 6514, 6515, 6517, 6519, 6531, 6541, 6552, 6553, 6061, 6062, 6111, 6141, 6153, 6159, 6035, 6036, 6000, 6021, 6022, 6029, 6081, 6082, 6712
6. Target ultimate parent mid industry code (excluded): Financials (4,353)
   The following mid industries are excluded: Alternative Financial Investment, Asset Management, Banks, Brokerage, Credit Institutions, Diversified Financials, Government Sponsored Entity, Insurance, Other Financials
7. Deal value (Euros): from 10 million (769)
8. Percent of shares owned after transaction: 100% (570)
9. Percent of shares acquired in transaction: from 50% (570)

The selection criteria in steps 1 to 4 represent the basic sample by defining the type of M&A transaction (corporate divestitures), the period (2000 until 2014) and the public status of the seller as well as its origin (Austria, Germany, or Switzerland). Steps 5 and 6 exclude financial firms from the sample. With this, the author follows Fama and French (1992) who argue that a high leverage, which is normal for financial firms, has a different meaning than for non-financial companies, where a high leverage may indicate financial distress. In doing so, the author furthermore follows common research practice, which ensures comparability to peer studies. By imposing a minimum deal value, the author ensures that only relevant divestitures, i.e. divestitures which have the potential to impact shareholder value, are included. The last two criteria ensure that the respective asset was majority-owned by the seller before the transaction and is fully divested by the transaction. Hence, the initial sample of corporate selloffs contains 570 cases. In a second step, the author reviewed all cases individually. In the course of this

second step, cases with confounding news within the window of five trading days before and after the announcement date have been manually excluded from the sample as those confounding announcements do not allow the isolation of the influence of the divestiture announcement from other corporate decisions. For example, Thyssen Krupp AG announced the sale of Thyssen Polymer GmbH on the same day as it announced the acquisition of Hanseatische Aufzugsbau GmbH. Confounding news was detected using the Bloomberg Corporate Action Calendar for the divesting companies. Moreover, cases with no unambiguous announcement date, cases that were mistakenly assigned to the D-A-CH region (e.g. Transocean Inc., Tyco International Ltd.[33]), cases where the ultimate parent could not be defined and cases where no market data was available (i.a. for Degussa AG, Centerpulse AG or Swissair Group AG) were deleted from the sample. In order to check for the accurate announcement date, the Bloomberg Corporate Action Calendar, as well as press releases and newspaper articles, were again utilised. This procedure reduced the sample to 334 cases, which were further reduced to the final 290 cases in a third step. Here, all cases with insufficient data, for example due to thin trading (e.g. Afipa SA) or when the ultimate parent is newly publicly traded, and thus, not enough past data is available (i.a. for Premiere AG, Syngenta AG or Infineon Technologies AG), were dropped. Moreover, all cases announced before the 1st January 2002 were deleted since the industry benchmark indices that serve as the explanatory variable for the estimation of the expected returns were mostly quoted first since 1st January 2001 and there need to be sufficient quotes for the estimation period.

For the spinoff sample, the initial selection criteria were as follows:

1. Spinoff (4,272) (accessed 22nd November 2015)
2. Date announced: between 1st January 2000 and 31st December 2014 (2,812)
3. Target ultimate parent nation: Austria, Germany, Switzerland (86)

Here, initial selection criteria only encompass three criteria. The first again defines the type of M&A transaction, the second and third refer to the investigated period and the origin of the parent company. Because of the small sample size and, hence, the eschewal of multivariate analyses, the author decided not to exclude financial firms from the sample. By definition of a spinoff, the public status of the seller (public), as

[33] The companies were non-D-A-CH companies at the time of the announcement.

well as criteria 8 and 9 of the selloff sample, are redundant as selection criteria. Due to the small sample size, the author additionally checked the Bloomberg database, which increased the initial sample by six cases. In the next step, the sample was manually reduced. First, all cases that do not fall under the spinoff definition of this research, mostly because the spinoff is not intended to be publicly traded (e.g. the spinoff of Neoplan Gottlob Auwärter GmbH by MAN AG or the spinoff of TESA AG by Beiersdorf AG), were deleted. Likewise, as in the selloff case, cases with confounding news in the five days before or after the announcement, cases with no unambiguous announcement data and cases with no or insufficient market data were excluded from the sample. This procedure resulted in a sample size of 22 cases only. Due to this small sample size, the author did not exclude the cases announced before the 1st January 2002 and instead uses a country benchmark in place of the industry benchmark for those cases.

4.6 Data Collection

As mentioned in the sample selection section, the sample of divestiture cases was drawn from the SDC Platinum M&A database. For each case, the author also collected a wide range of information from the same database. The collected data is summarised in Table 116 (Appendix, p. 233).

All information that was used in the research analysis, such as the announcement dates, the deal purpose, the consideration, industry affiliation etc. was validated. Announcement dates, for example, were cross-checked by press releases of the firms, ad hoc messages, news articles and the Bloomberg Corporate Action Calendar. The same holds true for the deal value, the form of consideration or the deal purpose. The industry affiliation was cross-checked with the Thomson Financial database. For other deal related information, which was not included in the SDC database, such as the intended use of proceeds, the author had to rely solely on press releases, news articles or analyst comments.

The stock data to conduct the event studies, i.e. the daily share prices – respectively the total return of the seller – were taken from Datastream. In addition, daily information regarding the market value, the shares outstanding, the market-to-book value, the breadth index and the country benchmark were also collected from Datastream. The data regarding the industry benchmarks was taken from Bloomberg. In the case of missing information, the Bloomberg database was again checked for additional information, which was especially the case for sellers that ceased to exist. Information regarding the sellers' SIC codes (primary and further SIC codes), ICB codes and the number of segments was gathered from the Thomson Financial database as source. Finally, a wide range of accounting data for each seller, such as the income statement, profitability ratios, the cash flow statement, cash flow ratios, the balance sheet and balance sheet ratios were gathered from the Worldscope database.

4.7 Variable Description

4.7.1 Deal Related Variables

In the research analysis presented in chapter 5, the author uses abbreviations for the individual variables, which are explained hereinafter. The variables are categorised as deal related variables (4.7.1), seller related variables (4.7.2) and further variables (4.7.3). Table 117 (Appendix, p. 237) summarises all variables including a brief description.

Motives

For an increase in the corporate industrial focus, the author uses two different variables. IFOCUS_A indicates that the management announced an increase in corporate industrial focus as the motive of the transaction; IFOCUS_S indicates an increase in the corporate industrial focus based on a difference in the seller's and target's two-digit SIC code. Both variables are binary variables. The variable NO2 describes the number of two-digit SIC codes that are assigned to the seller as an indicator for the degree of diversification and ranges from one to seven different two-digit SIC codes. MAJ_RES indicates that the announced motive of the management is a major restructuring or even a complete strategic shift and is also a binary variable. Financial distress is again

represented by two binary variables: DISTRESS_A indicates that the seller announced financial distress as the motive for the transaction; DISTRESS_Z refers to the z''-score and indicates that the seller's z''-score is below the critical value of 1.1. If the transaction was conducted involuntarily as it was forced by changes in the legislation or regulatory issues, the binary variable INVOLUNT accounts for this circumstance. The variable MOTIVE accounts for the announcement of the management in detail (manifestations described in Table 117, p. 237).

Geographic Focus

In order to measure the change in the geographic focus, two different variables were again applied. The variable FOREIGN states whether the asset sold is a foreign asset; the variable NON_EU indicates that the target is not a European asset.

Use of Proceeds

The categorical variable PROCEEDS indicates the intended use of proceeds announced by the management of the seller. It takes on the manifestation DEBT if the proceeds should be used to reduce debt, REINVEST if the proceeds are intended to remain in the company or be used to reinvest in other projects, PAYOUT if the management announces distribution of the proceeds to its shareholders and UNKNOWN if the use of proceeds remains unclear.

Transparency

The deal transparency is proxied by five different variables. PRICE_A is a categorical variable and indicates if the price is announced directly at the announcement (PRICE_A), if it is not announced (NOT_ANNOUNCED) or if the announcement is unclear (UNKNOWN). The other four variables – BOOKGAIN_A, PROCEEDS_A, CONSIDERATION_A, and MOTIVE_A – are binary variables and indicate if the impact of the selloff on the seller's books, the intended use of proceeds, the form of payment and the motive of the transaction was announced by the management.

Strategic Fit

The binary variable FIT accounts for the strategic fit of the seller and buyer based on the two companies' four-digit SIC codes. FOCUS_FIT combines the variable FIT with the variable IFOCUS_S and thus has the four manifestations of FOCUS_FIT, NOFOCUS_FIT, FOCUS_NOFIT and NOFOCUS_NOFIT.

Type of Buyer

The type of buyer is given by the variable BUYER with its manifestation PE for private equity companies, STRATEGIC for strategic buyers like competitors, and MBO in the case of managerial buyouts.

Payment

Regarding the form of payment, the author uses the variables CASH and PAYM (payment). The binary variable CASH indicates that the form of consideration is cash; the variable PAYM is more detailed and distinguishes the 'non-cash group' between cases where the form of payment is unknown (UNKNOWN) and cases where the form of payment is really non-cash (OTHER).

Relative Size

The variable RELSIZE is a continuous variable and describes the relative size of the target in relation to the seller. Furthermore, the author uses a categorical variable SIZE, which distinguishes between SMALL deals (relative size between 0% and 10%), MEDIUM deals (relative size between 10% and 50%) and LARGE deals (relative size 50% and more).

4.7.2 Seller Related Variables

Growth Perspectives and Financial Condition

The growth perspectives of the seller are represented by the variable MTB which stands for the seller's market-to-book ratio. Additionally, the variable MTBD divides the market-to-book ratio into quartiles. The performance prospects are described by the binary variable STOCK which indicates if the seller's buy-and-hold return in the estimation period BAH_ESTP is positive. The continuous variable ROA represents the

seller's profitability proxied by its return on assets. QUICK stands for the seller's quick ratio, i.e. its liquidity; QUICKD for a dummy variable indicating a quick ratio above one. DE stands for the seller's leverage proxied by its debt-equity ratio. The variable ZSCORE represents the seller's z''-score which indicates if the seller is likely to become bankrupt within the next two years.

4.7.3 Further Variables

The variable DIRECT indicates if the relationship between seller and target is of a direct nature, i.e. the target is, for example, a direct subsidiary or business unit, or if the relationship is indirect, i.e. the target is, for example, the subsidiary of a subsidiary. The categorical variables SELLERNAT, BUYERREG and TARGETREG indicate the origin of the seller, buyer or the asset sold (the manifestations are described in Table 117 (Appendix, p. 237)). BETA indicates if the seller's beta changed significantly following the divestiture (alpha level is 5%) with the manifestations NOCHANGE, UNKNOWN, INCREASE and DECREASE. The variable CYCLE describes the economic environment (BOOM, RECESSION) and the variable ASSET indicates the nature of the asset sold (for the characteristics see Table 117. p. 237). The variable DV stands for the deal value and the variable MV for the market value of the seller ten trading days prior to the divestiture announcement. Finally, the variables INDUSTRY and YEAR stand for the industry based on the ICB classification benchmark, respectively the year of the announcement of the transaction.

5 Research Results

The research results are structured as follows: first, section 5.1 provides the descriptive statistics for the selloff and spinoff sample to get an overview of the underlying data. Second, section 5.2 presents the results of the event study analysis for the whole sample, as well as for different subsamples, according to the research hypotheses formulated in chapter three, including univariate tests for significantly positive abnormal returns. The significances reported indicate a significantly positive average abnormal return at the respective alpha level. If not otherwise mentioned, the significances refer to a right-tailed standardised cross-sectional test if the size of the subsample is at least 30 cases, and to a right-tailed Fisher's exact test if the sample size is less than 30 cases. The standardised abnormal returns are presented in Appendix G. Moreover, the author presents the results of bivariate tests for differences in the standardised abnormal returns of the different subsamples, using simple regression.

For consistency reasons, the significances of the regression coefficients reported in the tables always refer to a two-tailed test. In the interpretation of the results, however, the author may refer to one-tailed tests dependent on the formulation of respective hypotheses. In such cases, this approach is explicitly mentioned. The regression results for the generic abnormal returns can also be found in the Appendix (Appendix H).

Because the bivariate results only serve as a first indicator for a potential influence of the respective variables on the abnormal returns, the author delays a discussion of the results until section 5.3 where the bivariate findings are included in multivariate models to validate the bivariate findings. Hence, section 5.3 includes a discussion of the research results with respect to the hypotheses tested as well as to prior research. The corresponding results regarding the generic abnormal returns are presented in Appendix I.

5.1 Data Description

5.1.1 Selloff Sample

Deal Value and Number of Deals

The final sample of selloffs is comprised of 290 cases which are fairly equally distributed over the first years of the sample period, followed by a decrease in the number of cases in the years 2009 until 2013. The total deal value increases initially until the peak in 2006, which also presents the peak in the number of cases, followed by a significant decline in subsequent years, which is in line with the decline in the number of deals. From 2009 onwards, a slight recovery of total deal values can be observed (Figure 7).

Figure 7: Selloff Annual Total Deal Value and Deal Number

The average deal value, as well as the total deal value, increases until 2006, followed by a significant drop, especially in 2008 during the course of the financial crisis. However, contrary to the total deal value, the average deal value already reaches its previous level again in 2009. The average proportion (equally weighted) of the deal value in relation to the market value of the seller remains constant over the entire sample period, with an exception in 2003 where the high average is caused by divestitures of companies in acute financial distress or even insolvency (Figure 8).

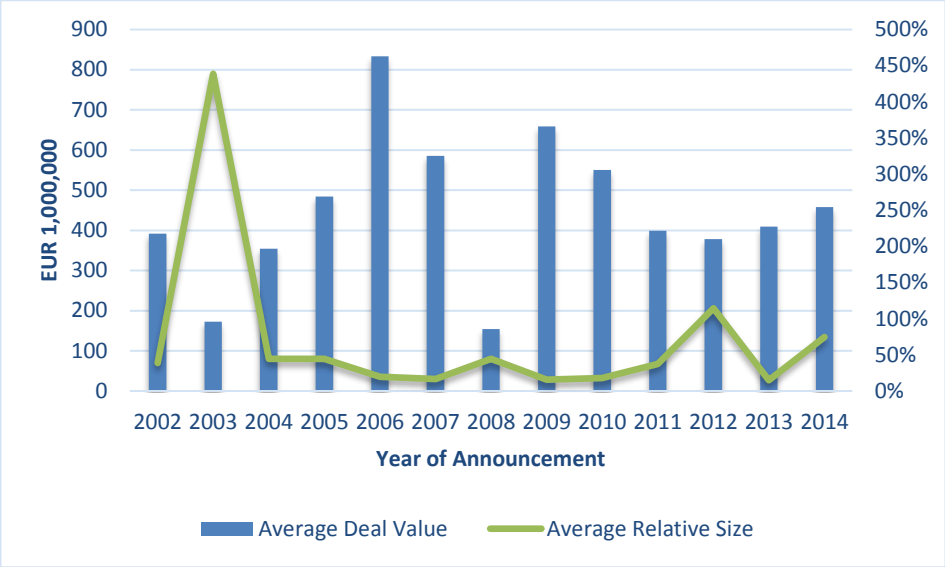

Figure 8: Selloff Annual Average Deal Value and Relative Size

Looking at the total sample, the average deal value amounts to 458.25 million Euros with a median of 101.57 million Euros; the average market capitalisation ten trading days before the announcement of the divestitures is 20,230.93 million Euros with a median of 4,198.07 million Euros. The relative size of the transaction, i.e. the deal value as a proportion of the market value of the selling company, which serves as an indication for the degree of restructuring undertaken, yields a mean of 73.84%. The distribution shows a significant deviation from normal (leptokurtic as well as right-skewed). The relative size is between 0% and 10% for 63.45% of the selloff cases in the sample and between 10% and 50% for 21.03%. For the rest, the deal value exceeds 50% of the seller's market capitalisation. Hence, both the absolute as well as the relative size of the deal indicate some outliers with extraordinary deal values (Table 12).

					Percentiles	
Variable	N	Mean	Median	Std. Dev.	25%	75%
DV	290	458.25	101.57	1145.16	28.4	296.67
MV	290	20230.93	4198.07	31243.99	456.86	33305.66
RELSIZE	290	73.84	3.74	333.62	0.63	21.49

Deal Value and Market Value in EUR 1,000,000, Relative Size in %

Table 12: Selloff Distribution of Deal Value, Market Capitalisation and Relative Size of the Deal

Industry Affiliation and Degree of Diversification

The cases are distributed over 16 industries. Accounting for 220 of the 290 cases (78.86%) the Chemicals, Construction & Materials, Health Care, Industrial Goods & Services, Technology and Utilities industries represent the major part of the sample. This dominance becomes even more distinct looking at the total deal value where those industries account for 86.17% of the sample total deal value (Table 13). Moreover, 247 divestitures are conducted by companies operating in the manufacturing sector whereas only 43 divestitures are announced by companies outside the manufacturing sector.

Industry	N	Proportion	Total Deal Value	Proportion
Automobile & Parts	10	3.45	6,836.10	5.14
Basic Resources	9	3.10	2,694.33	2.03
Chemicals	43	14.83	16,027.10	12.06
Construction & Materials	21	7.24	6,795.82	5.11
Food & Beverages	11	3.79	1,032.15	0.78
Health Care	42	14.48	22,692.89	17.08
Industrial Goods & Services	61	21.03	18,352.69	13.81
Media	4	1.38	1,575.18	1.19
Oil & Gas	4	1.38	138.50	0.10
Personal & Household Goods	5	1.72	786.75	0.59
Retail	14	4.83	2,537.16	1.91
Real Estate	1	0.34	130.00	0.10
Technology	26	8.97	3,337.18	2.51
Telecommunication	10	3.45	2,428.01	1.83
Travel & Leisure	2	0.69	219.62	0.17
Utilities	27	9.31	47,309.09	35.60
Total	290	100.00	132,892.58	100.00

Proportion in %, Total Deal Value in EUR 1,000,000

Table 13: Distribution of Selloff Cases by Industry

Based on the number of different two-digit SIC codes assigned to the seller, only 12.46% of the sellers solely operate in one single industry, whereas 65.40% operate in two to four different industries. 22.15% of the sellers are more widely diversified and operate in five or more industries (Figure 9).

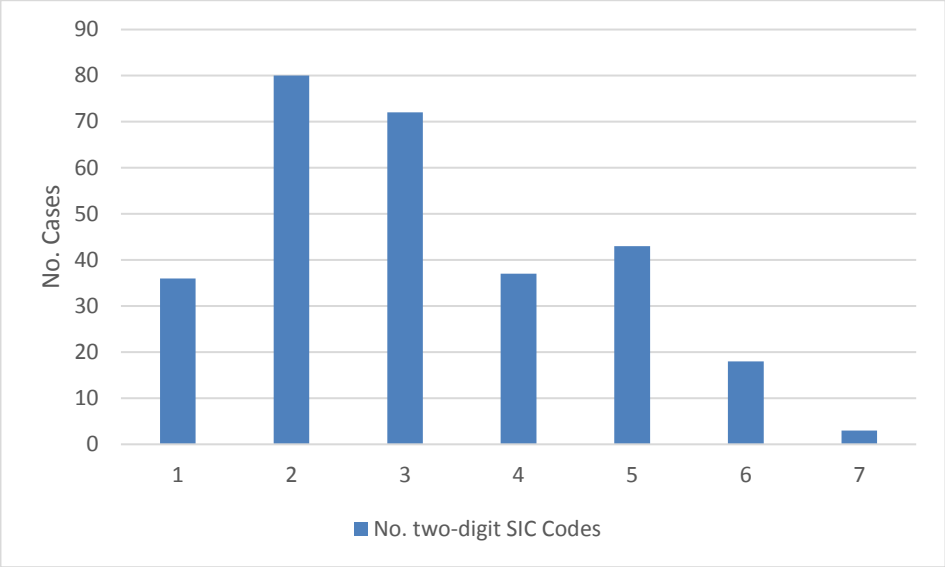

Figure 9: Distribution of Selloff Cases by Degree of Diversification

Geographic Affiliation

In regard to the seller region, there is a clear focus on the German market with 203 cases, followed by 84 cases of Swiss companies. Austria is represented with only three cases in the sample (Figure 10).

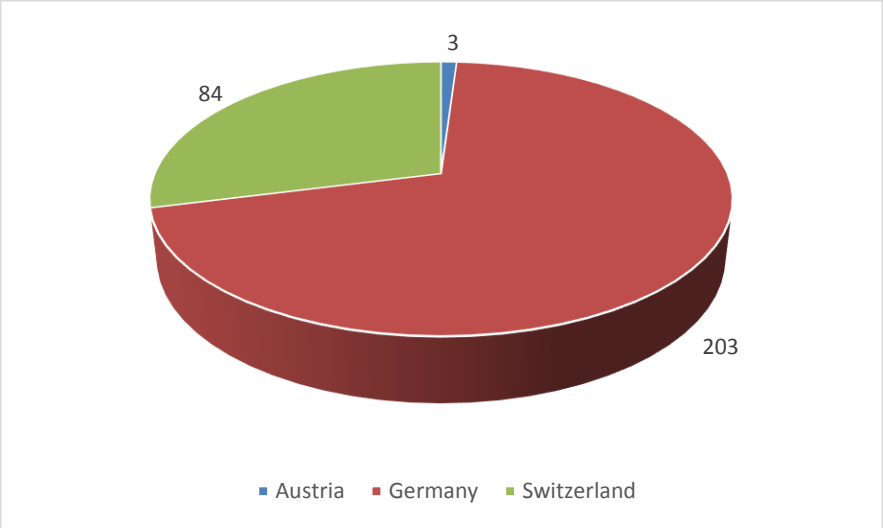

Figure 10: Distribution of Selloff Cases by Seller Nation

The targets, i.e. the assets or subsidiaries disposed, are mainly located in Europe (228) and North America (42). Similarly, the majority of buyers come from European countries (165) or North America (89). Only a minority of targets or buyers come from other regions such as, for example, Africa, Asia or South America (Table 14).

	Target		Buyer	
Region	N	Proportion (%)	N	Proportion (%)
Africa	0	0.00	1	0.34
Asia	6	2.07	16	5.52
Central America	5	1.72	3	1.03
Europe	228	78.62	165	56.90
Middle East	0	0.00	4	1.38
North America	42	14.48	89	30.69
Oceania	6	2.07	6	2.07
Russia	0	0.00	2	0.69
South America	3	1.03	2	0.69
Unknown	0	0.00	2	0.69
Total	290	100.00	290	100.00

Table 14: Distribution of Selloff Cases by the Divested Asset's and Buyer Region

Rationale for Divestitures

Looking at the announced transaction motive, a substantial proportion of the sellers claim that they want to increase their corporate focus by the selloff transaction. A major restructuring or even a complete shift in the corporate strategy is stated as motive in 11.72% of the transactions. 4.83% of the sellers claim that the divestiture is the result of financial distress, 3.79% that it is the result of an underperformance of the asset disposed. In 18 of the 290 cases, the reason for the transaction is the need to raise cash; in 12 cases the sellers announce that the divestiture is a consequence of regulatory issues or changes in the legislation and hence, involuntary. 19 transactions are either sale and leaseback transactions or are the seller’s business model, i.e. build and sell strategies. In almost 20% of the cases, no motive for the divestiture is announced (Figure 11).

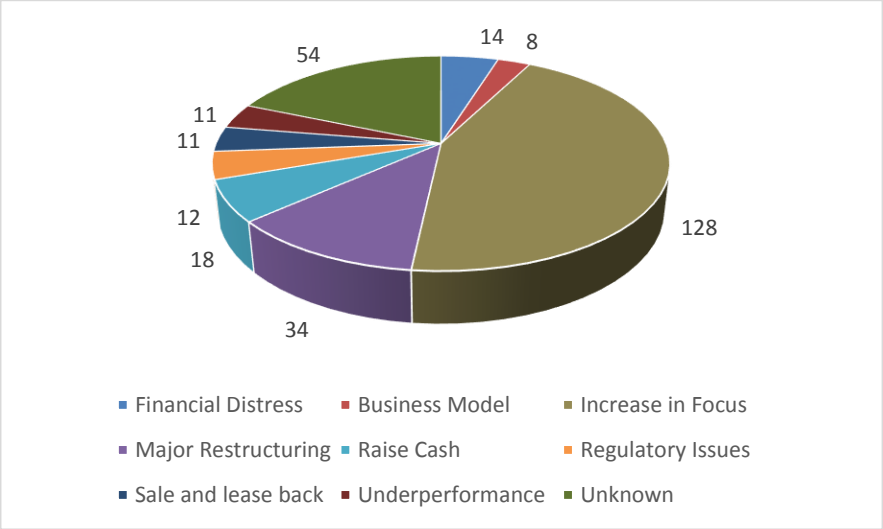

Figure 11: Distribution of Selloff Cases by Announced Motive

Looking at the objective measure regarding an increase in the corporate industrial focus through the selloff transaction, i.e. if the divested asset has a different two-digit SIC code from the seller's main two-digit SIC code, an increase in focus is observed in 144 cases, representing 49.66% of the entire sample. Regarding the measure of an increase in the geographic focus, i.e. if a foreign asset is divested or if the divested asset is even located outside Europe, 134 (46.21%) – respectively 62 (21.38%) – cases are considered as geographic focus-increasing (Table 15).

					Percentiles	
Variable	N	Mean	Median	Std. Dev.	25%	75%
IFOCUS_S	290	49.66	0	50.09	0	100
FOREIGN	290	46.21	0	49.94	0	100
NON_EU	290	21.38	0	41.07	0	0

All variables in %

Table 15: Distribution of Selloff Cases by Increase in Industrial and Geographic Focus

For the variable financial distress, Altman's z-score is applied as the objective measure. Using the z''-score in order to include non-manufacturing companies and considering a z''-score below 1.1 as an indicator for financial distress, 62 cases (21.83%) represent divestitures of sellers suffering from financial distress.

Growth Perspectives

The average market-to-book ratio as a proxy for the growth perspectives yields 2.56 (Table 16). The distribution of the market-to-book ratio is highly different from normal with a large right-tail. Three cases even exhibit a negative market-to-book value.

					Percentiles	
Variable	N	Mean	Median	Std. Dev.	25%	75%
MTB	289	2.56	1.82	6.29	1.26	2.72

Table 16: Distribution of Selloff Cases by the Seller's Market-to-Book Ratio

Use of Proceeds

The intended use of proceeds announced by the selling company is classified in the categories 'payout', 'reduce debt', and 'retain/reinvest'. Only four sellers claimed that they would use the proceeds of the divestiture for distribution to their shareholders, either via special dividends or via stock repurchases. 35 sellers announced that they would reinvest the proceeds in new projects or retain them in the company for future investments. In 56 cases, the proceeds were to be used to reduce the seller's debt level. However, in about two-thirds of the cases (67.24%), the intended use of proceeds remains unclear (Figure 12).

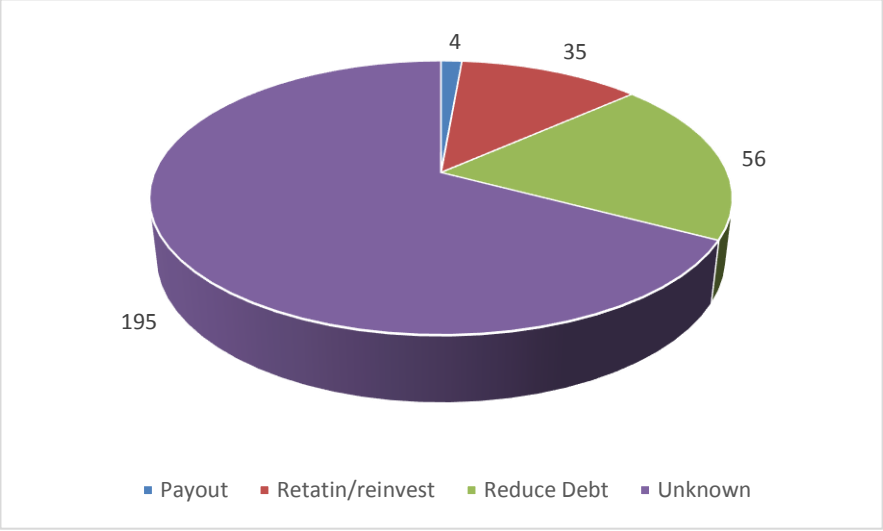

Figure 12: Distribution of Selloff Cases by Intended Use of Proceeds

Transparency

For the evaluation of a possible impact of the transparency of the transaction details, five different proxies are applied. Two proxies, the announcement of the motive of the transaction as well as the use of proceeds have already been addressed above. The main proxy, however, is the announcement of the transaction price. In 218 of the 290 cases (75.17%), the price of the transaction is announced directly on the announcement date. The effect of the sale on the seller's books as a further proxy, i.e. if the sale leads to a book gain or loss, is only announced in 23 cases (7.93%). The form of consideration as the fifth variable is disclosed in 47.59% of the cases.

Participation in the Value Creation Potential of the Buyer

Following the argumentation in chapter three, sellers have the chance to participate in the value creation potential of the buyer if the buyer operates in the same industry as the disposed asset, based on the four-digit SIC code. In the sample, this is the case for 70 selloffs (24.14%). Beyond that, a possible participation in the value creation potential should be even higher if the disposed asset is additionally unrelated to the seller, referring to the two-digit SIC code. Therefore, a new variable (FOCUS_FIT) was created which accounts for this relationship. In 29 cases, the disposed asset is unrelated to the seller but related to the buyer; in 105 cases the asset sold is related to the seller but unrelated to the buyer (Figure 13).

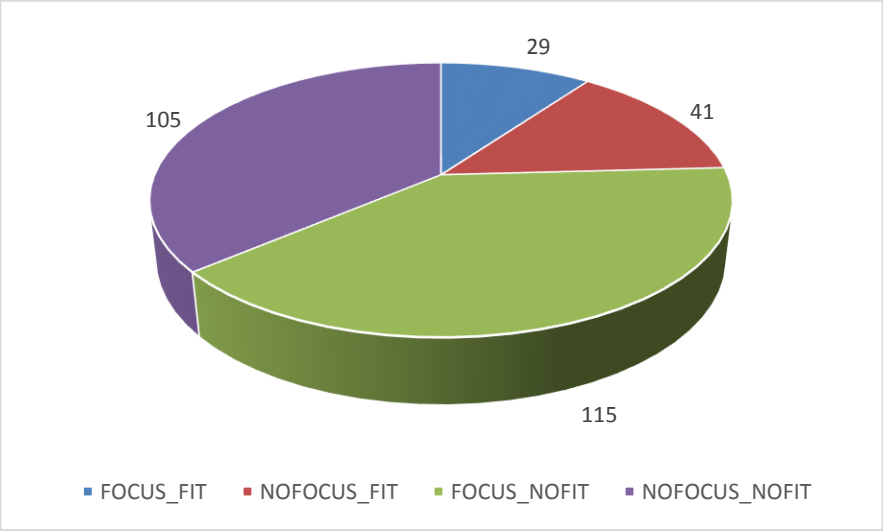

Figure 13: Distribution of Selloff Cases by Participation in the Buyer's Value Creation Potential

Type of Buyer

In most cases, the buyer can be classified as a strategic buyer, such as, for example, a competitor. Strategic buyers represent 73.70% of the sample. The second largest group of buyers is private equity companies representing 23.53% of the cases. Finally, in eight cases, the management acts as buyer (Figure 14).

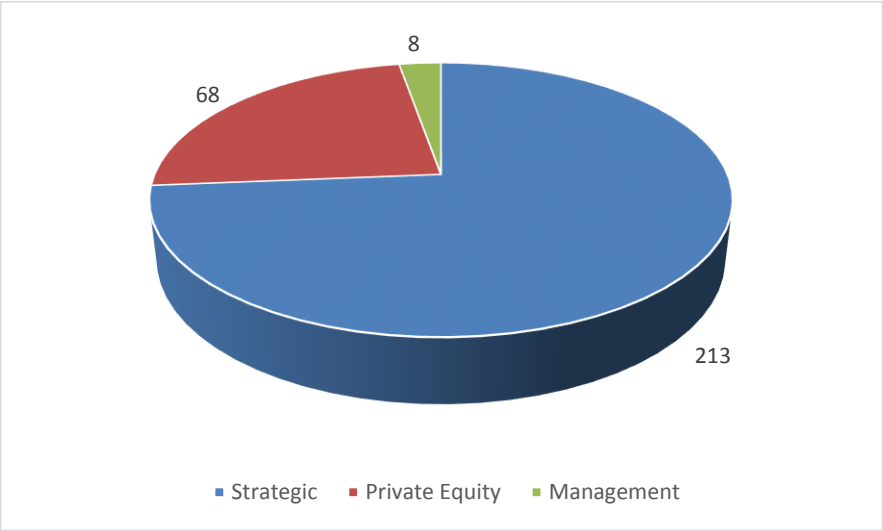

Figure 14: Distribution of Selloff Cases by Type of Buyer

Form of Payment

As noted regarding the transparency variables, the form of payment is not announced in over 50% of the sample. Of the remaining cases, the form of payment in the large majority (125) is cash only. In seven cases, the means of payment is a combination of cash and stock and only one case is settled by stock only. In five cases, other forms of payment are used (Figure 15).

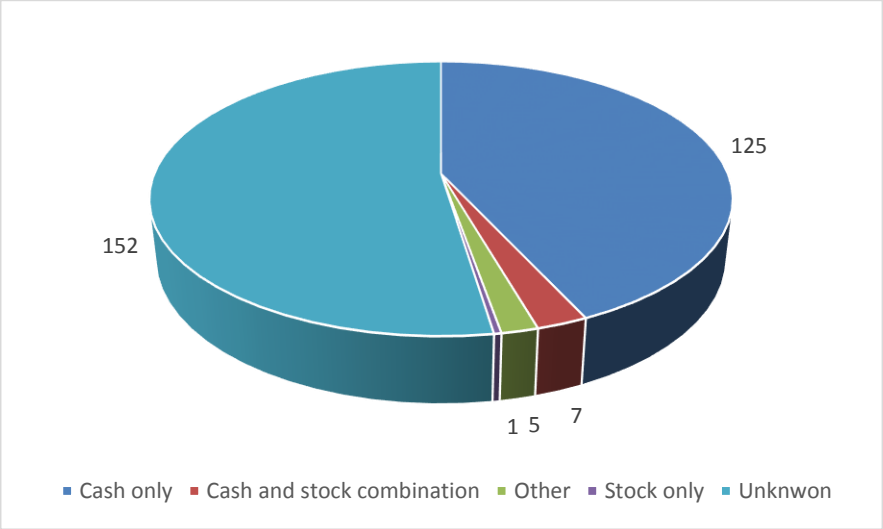

Figure 15: Distribution of the Selloff Cases by Form of Payment

Financial Performance

The buy-and-hold stock return of the seller in the estimation period, as proxy for the performance prospects of the seller, averages 12.57% with 62.07% of the sellers exhibiting a positive return. The distribution is right-skewed and leptokurtic. The average return on assets over the sample representing the profitability is 7.41% and is also right-skewed. Here, 84.89% of the sellers show a positive sign. The average quick ratio amounts to 1.62 and thus indicates that the average seller is able to meet its short-term liabilities with its liquid assets. The median, however, lies just under the critical value of 1, indicating that with 60.14%, a substantial number of sellers suffer from liquidity problems. As proxy for the leverage, the mean debt/equity ratio of the sellers is 1.86 with a median of 0.73. As the variable, which is probably most dependent on the industry in which a seller operates, the variation of this ratio is high with a variation coefficient of 7.60. The average z''-score as measure for financial distress is 4.09. The median, and even the 25%-percentile, also lie over the critical value of 1.1. Hence, the majority of sellers do not seem to suffer from acute financial distress (Table 17).

					Percentiles	
Variable	N	Mean	Median	Std. Dev.	25%	75%
BAH_ESTP	290	12.57	6.43	51.42	-11.08	27.01
ROA	278	7.41	4.63	16.18	2.06	8.72
QUICK	276	1.62	0.92	6.44	0.73	1.33
DE	277	1.86	0.73	14.14	0.32	1.24
ZSCORE	273	4.09	2.72	7.28	1.42	4.74

BAH_ESTP and ROA in %

Table 17: Distribution of Selloff Cases by Financial Performance

Further Characteristics

Most selloffs are announced in a friendly economic environment. Only 67 (or 23.10%) of the divestitures in the sample are announced during recession periods, referring to the development of the stock market, in particular the DAX[34]. Applying this measure, the period until the 12th March 2003 and from the 14th July 2007 until the 6th March 2009 are considered to be recession periods (Figure 16).

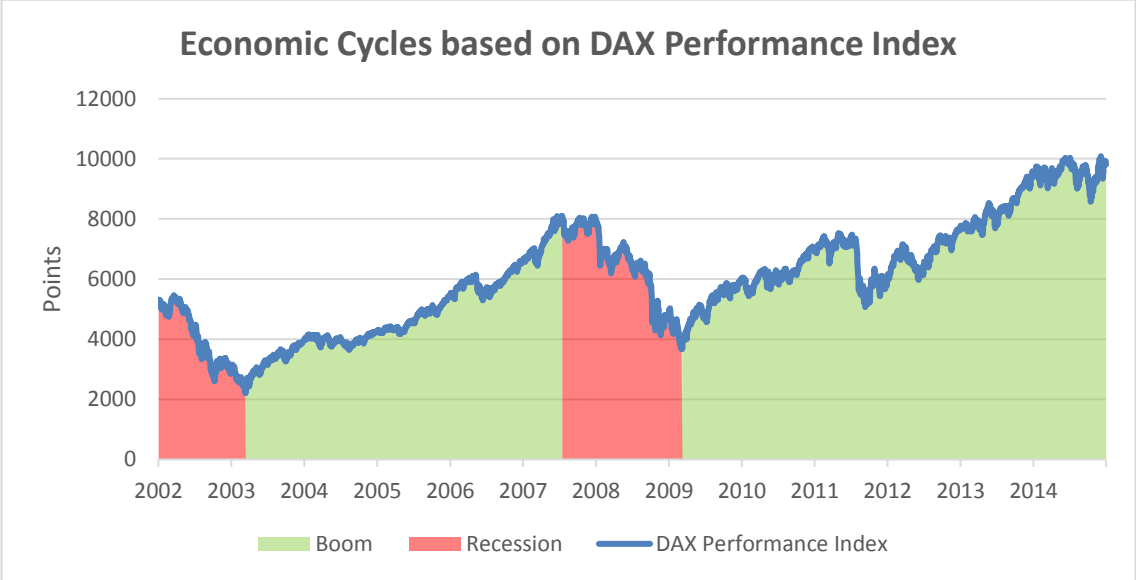

Figure 16: Distribution of Boom and Recession Periods Within the Investigated Time Horizon

[34] The commonly applied definition of a recession period is two consecutive quarters with no or negative GDP growth. Since the applied market model to estimate the expected returns uses the market return as a benchmark, the author deviates from the technical definition and instead uses the development of the stock market as a leading indicator for the economic trend. In the context of this thesis, the DAX was found to be the best proxy for the stock market development because divestitures of German companies represent the majority of cases. According to the subjective definition of the author, recession periods are defined as the time from the respective (all-time) high until the lowest point before a subsequent recovery of the stock market. The drop in 2011 is not considered to be a recession as the author considers this period as too short to constitute a recession. This is in line with the commonly applied definition where only the periods from 2001 until 2003 and 2008 until 2009 are considered as recession periods.

In 34 cases, the systematic risk of the seller's stock increases following the divestiture announcement, measured by a significant change in the seller's beta (at the 5% alpha level). In 28 cases, the divestiture announcement is followed by a decrease in the systematic risk and in 226 cases, no significant change in the seller's beta occurs (Figure 17).

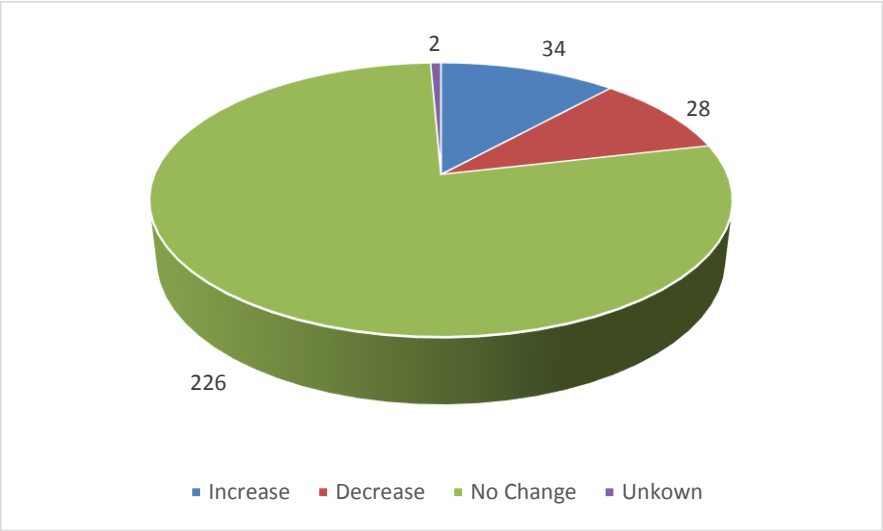

Figure 17: Distribution of Selloff Cases by Risk Changes Following the Selloff

Almost 50% of the assets sold are subsidiaries, i.e. independent companies that are controlled by the seller. In 31.72% of the cases, the asset disposed of is a fully integrated business unit. 8.62% of the cases represent the divestiture of properties, 6.90% plants and 3.10% the disposal of rights (Figure 18).

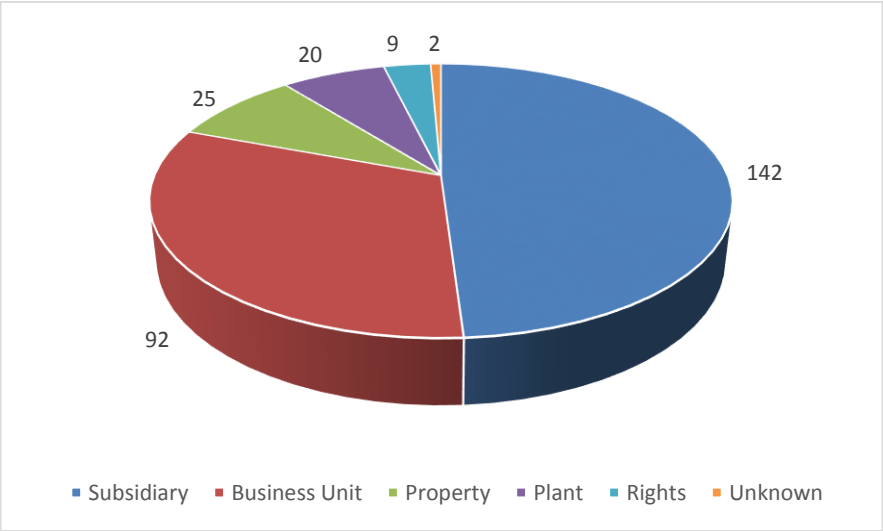

Figure 18: Distribution of Selloff Cases by Type of Asset Sold

Finally, 206 cases are characterised by a direct relationship between the seller and the asset sold; in 82 cases, the divestiture is conducted by a subsidiary of the ultimate parent.

5.1.2 Spinoff Sample

Due to the small size of the spinoff sample and, hence, the wide (involuntary) eschewal of multivariate analyses, the spinoff sample is not described as exhaustively as the selloff sample. The final sample consists of 22 deals in the period from 2000 until 2014, and only the years 2012 and 2014 account for more than two cases (Figure 19).

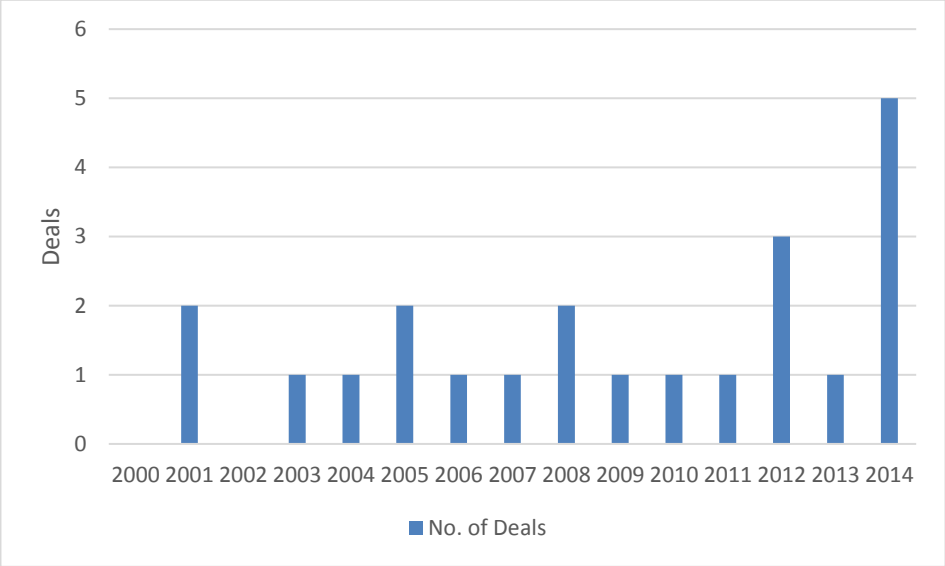

Figure 19: Annual Distribution of Spinoff Cases

A deal value is known in 50% of the cases and ranges from 101.83 to 2,011.64 million Euros; the deal value in relation to the market capitalisation of the divestor ranges from 2.90% to 2,351.74%. The cases cover eleven different industries with the Industrial Goods and Services sector providing more than a third of all cases (Table 18).

Industry	N	Proportion
Banks	2	9.09
Basic Resources	1	4.55
Chemicals	3	13.64
Construction & Materials	1	4.55
Food & Beverages	1	4.55
Industrial Goods & Services	8	36.36
Personal & Household Goods	1	4.55
Retail	1	4.55
Real Estate	1	4.55
Travel & Leisure	2	9.09
Utilities	1	4.55
Total	22	100.00

Proportion in %

Table 18: Distribution of the Spinoff Cases by Industry

The average market value of the parent companies is 6,209.11 million Euros with a median of 715.50 million Euros (Table 19).

					Percentiles	
Variable	N	Mean	Median	Std. Dev.	25%	75%
MV	22	6209.11	715.50	15425.46	310.72	3402.25

Market Value in EUR 1,000,000

Table 19: Distribution of Spinoff Cases by Market Value of the Parent

The buy-and-hold stock returns of the parents as a proxy for performance prospects average 12.35% in the estimation period with only five parents exhibiting a negative estimation period return. The average is close to the average value for sellers who exhibit an average estimation period return of 12.57%. Similarly, the average return on assets over the sample representing the profitability is 6.56%, compared to 7.41% in the selloff sample, with 83.33% of the divestors showing a positive profitability. The average quick ratio amounts to 1.64 and thus indicates that the average divestor is able to meet its short-term liabilities with its liquid assets. Also, the median quick ratio is above the critical value of 1, however, 50% of the divestors have a quick ratio below 1. As proxy for the leverage, the mean debt/equity ratio of the parent companies is 1.88 with a median of 0.63. The variation in the debt/equity ratio is also very high here with a variation coefficient of 2.96, but substantially smaller than in the selloff sample. The

average z''-score as indicator for financial distress is 5.47. The median and even the 25% percentile also lie over the critical value of 1.1. Only three divestors show a z''-score below 1.1 and, hence, seem to be in financial distress (Table 20).

					Percentiles	
Variable	N	Mean	Median	Std. Dev.	25%	75%
BAH_ESTP	22	12.35	10.91	49.06	0.36	30.79
ROA	18	6.56	2.96	12.02	0.69	7.33
QUICK	16	1.64	1.06	1.26	0.85	1.99
DE	18	1.88	0.63	5.56	0.33	0.80
ZSCORE	15	5.47	3.42	4.75	1.54	8.83

BAH_ESTP and ROA in %

Table 20: Distribution of Spinoff Cases by Financial Performance of the Parent

Finally, only four cases are conducted during recession periods; the majority of spinoffs are conducted in a favourable economic environment.

5.2 Event Study and Bivariate Results

5.2.1 Selloff Event Study and Bivariate Results

5.2.1.1 Hypothesis 1 – Overall Effect

Hypothesis 1: Corporate selloffs and spinoffs of publicly traded companies located in the D-A-CH region on average create significant value for their shareholders.

The results support the hypothesis that selloffs on average create significant shareholder value and are in line with previous research. A highly significant positive average abnormal return of 1.25% can be observed for the whole sample at the announcement date, which is supported by the result of the standardised cross-sectional test that should be rather applied as described in the methodology section. Equally, the proportion of positive abnormal returns at the announcement date, which amounts to 58.97%, is highly significantly positive and also the absolute abnormal return in terms of Euros,

which amounts to 57.47 million Euros, is positive and significant at the 5% alpha level (Table 21).

Trading Day	AAR	SAAR	Median AR	Proportion positive ARs	Absolute AAR
-10	0.19	0.10*	0.07	52.41	31.09*
-9	-0.15	0.01	-0.07	47.59	24.49*
-8	0.43**	0.10*	-0.01	49.66	-8.52
-7	-0.03	0.05	0.07	51.03	-1.42
-6	-0.07	-0.03	-0.12	45.17	6.62
-5	0.11	0.01	0.03	51.03	-29.92
-4	-0.20	-0.06	-0.09	46.21	-31.41
-3	0.45***	0.16***	0.09	53.10*	2.12
-2	-0.03	0.02	-0.05	47.93	3.48
-1	-0.01	0.02	0.02	51.38	3.36
0	1.25***	0.62***	0.34	58.97***	57.47**
1	0.19	0.07	-0.04	49.31	-23.11
2	0.00	-0.11	-0.12	47.24	-9.59
3	0.02	0.02	-0.06	47.93	-21.82
4	0.27**	0.02	0.03	50.69	-19.53
5	-0.24	-0.06	-0.13	45.86	-6.48
6	-0.04	0.09*	0.06	51.03	6.82
7	-0.14	-0.04	-0.04	47.93	-45.27
8	-0.07	0.03	-0.08	46.90	-6.22
9	-0.14	0.01	-0.05	47.93	18.34
10	0.06	0.03	0.03	51.72	-0.38

AAR, median AR and proportion of positive AR in %; Absolute AAR in EUR 1,000,000

N=290; *, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively based on a right-tailed cross-sectional test for AAR and absolute AAR, a right-tailed standardised cross-sectional test for SAAR and a right-tailed Fisher's exact test for the proportion of positive abnormal returns.

Table 21: Daily Average Abnormal Selloff Returns in the Event Period

Moreover, except for the average abnormal return on the trading day three days prior to the announcement, all single day average abnormal returns in the event period are insignificantly different from zero regarding a two-tailed test (not reported here), which supports the theory of efficient capital markets in the semi-strong form that is automatically jointly tested. Looking at the cumulative average abnormal returns over the entire event period and different event windows within the event period, the results

show that the abnormal announcement gains for the shareholders remain and are not lost in the days following the announcement (Table 22).

Event Window	CAAR	SCAAR	Absolute CAAR	Proportion positive CARs
[-1;0]	1.24***	0.45***	60.84*	54.83**
[-1;1]	1.44***	0.40***	37.73	54.83**
[0;1]	1.45***	0.48***	34.37	57.93***
[-2;2]	1.41***	0.27***	31.63	54.48**
[-3;3]	1.88***	0.29***	11.93	57.24***
[-5;5]	1.82***	0.20***	-75.42	54.48**
[-10;10]	1.86***	0.22***	-33.61	53.79**

AAR and proportion of positive AR in %; Absolute AAR in EUR 1,000,000

N=290; *, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively based on a right-tailed cross-sectional test for CAAR and absolute CAAR, a right-tailed standardised cross-sectional test for SCAAR and a right-tailed Fisher's exact test for the proportion of positive abnormal returns.

Table 22: Selloff CAARs in the Event Period

Hence, the significantly positive average announcement return does not seem to be the result of an initial overreaction but the result of real gains due to the divestiture (Figure 20). Indeed, because of the increasing number of trading days, the significance of the cumulative average abnormal returns is decreasing with an increasing event window.

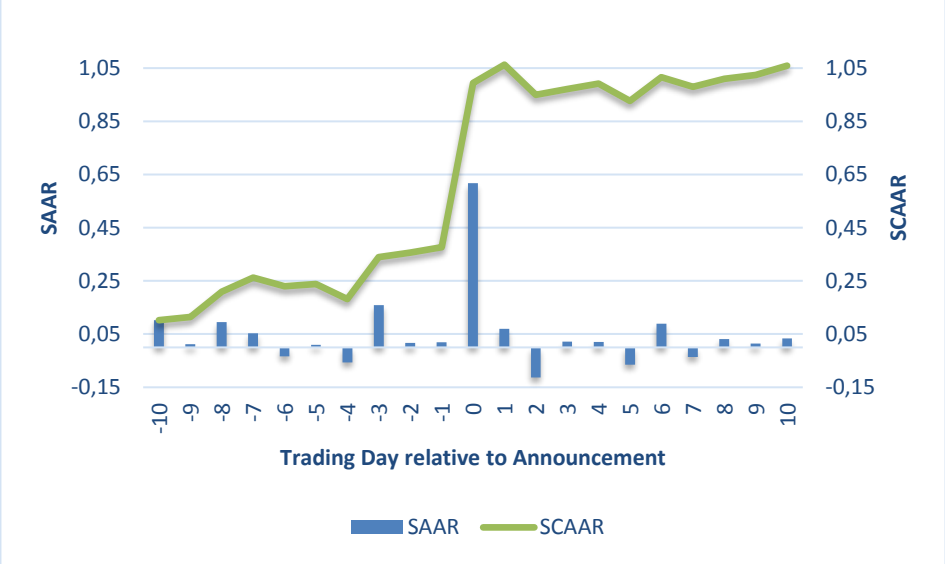

Figure 20: Event Period Daily and Cumulative Standardised Average Abnormal Selloff Returns

The following table (Table 23) reports the (cumulative) average abnormal returns for each year of the investigation period in the event windows [0], [-1;0], [0;1] and [-1;1], which will also be applied for the multivariate analysis later. Except the year 2006, the reported significances are based on a non-parametric Fisher's exact test rather than a parametric test, since due to the small sample size, normal distributions cannot be assumed. The average abnormal returns are always positive, except the years 2010 and 2014, although statistical significance can only be reported in some cases. The negative average in 2014 can, however, be attributed to one large outlier.

YEAR	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
2002	25	1.84*	0.36	1.50*	0.02
2003	25	3.14	3.49	4.62	4.97
2004	24	1.01	0.57	0.94**	0.50
2005	26	1.39	1.60	0.93	1.14
2006	35	0.22	0.32	0.96*	1.06*
2007	28	1.12*	0.85	0.67	0.40
2008	22	3.82*	4.59*	2.31	3.09
2009	12	2.07	1.41	2.23	1.57
2010	16	0.26	0.13	-0.34	-0.46
2011	18	2.40	2.71	4.00	4.31*
2012	16	2.30*	2.55***	2.82	3.07*
2013	18	1.79	2.54	1.39	2.14
2014	25	-3.46	-3.25	-1.91	-1.70

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 23: Selloff CAARs by Year

Likewise, distinguishing between industry-specific abnormal returns, the picture is similar (Table 24). Abnormal returns are mainly positive, although a statistical significance based on Fisher's exact test can only be reported for some industries. However, in contrast to the abnormal returns by year, the differences between the different industries seem to be higher. The negative abnormal returns for sellers in the Utilities industry are very noticeable and can be explained by one outlier exhibiting an abnormal return between -92.41% in the [0] and -66.91% in the [-1;1] event window. This outlier, which also causes the negative average for the year 2014, refers to a selloff conducted by SAG Solarstrom AG, which was in bankruptcy proceedings at the time of the divestiture announcement. Since the statistical tests are based on standardised

abnormal returns rather than the generic abnormal returns, or even on a non-parametric test, this outlier should not cause any issues regarding the research results. Likewise, the averages for the Media, Personal & Household Goods as well as Retail industries are dominated by outliers that explain the higher magnitude compared to the other industries, although the magnitude of these outliers is not comparable to the SAG Solarstrom case.

INDUSTRY	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Automobile & Parts	10	-0.01	0.31	-0.31	0.01
Basic Resources	9	1.20	-0.49	0.21	-1.48
Chemicals	43	0.21	-0.15	0.33	-0.03
Constr. & Materials	21	1.80*	2.10	1.79	2.08
Food & Beverage	11	0.09	0.99	0.95	0.96
Health Care	42	1.83***	1.92**	2.03***	2.13***
Industrial Gds. & Serv.	61	1.32***	0.75**	1.94**	1.37**
Media	4	8.65	8.97	8.64	8.96
Oil & Gas	4	2.55	2.84	4.09	4.37*
Pers. & Househ. Goods	5	4.11	2.83	4.32	3.04
Real Estate	1	8.84*	10.30*	18.31*	19.77*
Retail	14	3.41	4.28	2.62	3.49
Technology	26	3.79	4.33	3.28	3.82
Telecommunication	10	0.77	1.60	1.14	1.97
Travel & Leisure	2	0.41	2.13	-1.36	0.36
Utilities	27	-3.39	-2.86	-2.48	-1.94

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 24: Selloff CAARs by Industry

Distinguishing between the countries of origin of the seller, no obvious differences can be observed (Table 25). The average abnormal returns are positive in all three cases, however, due to the fact that Austria represents just three cases, no statistical significance could be detected here.

SELLERNAT	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Austria	3	0.75	0.76	0.77	0.79
Germany	203	1.25***	1.36***	1.51***	1.62***
Switzerland	84	1.28***	0.99***	1.31***	1.03**

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively based on the right-tailed standardised cross-sectional test for Germany and Switzerland and Fisher's exact test for Austria because of the small sample size.

Table 25: Selloff CAARs by Seller Nation

This first impression is supported by the results of a bivariate regression (Table 26), which shows an insignificant F-test for all reported event windows. Hence, there seem to be no differences in abnormal returns dependent on the country of origin of the seller.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
AUSTRIA	-0.877	-0.421*	-0.349	-0.123
	(0.682)	(0.218)	(0.578)	(0.298)
SWITZERLAND	0.202	0.020	-0.000	-0.099
	(0.265)	(0.213)	(0.232)	(0.208)
Cons	0.568***	0.447***	0.487***	0.434***
F-Statistic	1.28	2.19	0.18	0.17
R^2	0.004	0.001	0.000	0.001
Observations	290	290	290	290

GERMANY omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 26: Regression of SCAARs on the Seller Nation

Regarding the origin of the target as well as the buyer (Table 27 and 28), significantly positive abnormal returns can only be reported for Europe and North America.

TARGETREG	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Europe	228	1.47***	1.54***	1.60***	1.66***
North America	42	0.52*	0.27*	1.47*	1.32**
Asia	6	-0.27	-0.14	-0.37	-0.24
Oceania	6	0.33	-0.21	-0.37	-0.90
Central America	5	0.44	0.64	0.20	0.41
South America	3	2.67	-0.61	-1.16	-4.44

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 27: Selloff CAARs by Target Region

The large negative abnormal returns in the case of an Asian acquirer are particularly remarkable (Table 28), however, a statistical test for a possible negative abnormal return does not show a significant result. Also here, the average is dominated by the SAG Solarstrom case with a negative abnormal return ranging between 92.41% in the [0] and 66.91% in the [-1;1] event windows.

ACQUIRERREG	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Europe	165	2.03***	2.11***	1.93***	2.01***
North America	89	1.22**	0.99*	1.43**	1.20*
Asia	16	-5.62	-4.80	-3.27	-2.46
Oceania	6	1.02	0.95	0.76	0.69
Middle East	4	0.28	-0.67	0.95	-0.00
Central America	3	0.21	-0.11	-0.25	-0.56
Russia	2	0.38	1.06	-0.24	0.43
South America	2	0.51	1.47	0.40	1.36
Unknown	2	-0.41	-3.03	9.13	6.50
Africa	1	0.55	-1.10	0.46	-1.20

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 28: Selloff CAARs by Acquirer Region

Tests for the differences in abnormal returns between different target regions, as well as the different acquirer regions, show significant F-statistics for all event windows, except for the announcement date only for the target region. Hence, the origin of target and buyer seem to play a significant, although small role in explaining shareholder value gains. The regression results are reported in the Appendix (Tables 118 and 119, pp. 238–239).

Looking at the motives stated by the sellers at the announcement, significantly positive abnormal returns are observed for the motives of an increase in focus, a major restructuring or if no motive is stated at all (Table 29). Also, if the motive is to raise cash in order to finance an acquisition or reduce debt, the abnormal returns are positive for all reported event windows, although the sign test does not show any significance. The results are somewhat mixed for the cases where financial distress or the underperformance of the asset sold are stated as the rationale for the divestiture. Again, a sign test does not reveal any significance for those two groups.

MOTIVE	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Increase focus	128	1.36***	1.28***	1.49***	1.41***
Major restructuring	34	2.10***	2.38***	2.03***	2.31***
Financial Distress	14	-1.25	-2.08	1.81	0.98
Underperformance	11	-0.37	0.62	1.59	2.59
Regulatory Issues	12	0.04	0.31	-0.38	-0.11
Raise cash	18	2.10	1.57	2.38	1.86
Business model	8	0.28	0.10	0.73	0.55
Sale and lease back	11	-0.01	-0.26	0.64	0.39
Unknown	54	1.84***	2.01**	1.22*	1.38*

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 29: Selloff CAARs by Motive

A statistical test for the differences in the abnormal returns between the different motives (Table 30) only reveals a significant F-statistic for the event windows [0] and [-1;0].

The motives 'increase in focus', 'major restructuring', 'financial distress' and 'regulatory issues' (involuntary divestiture) are investigated separately in the following sections.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
BM	0.291	0.305	-0.120	-0.015
	(0.706)	(0.536)	(0.686)	(0.534)
IFOCUS_A	0.880	0.666	0.213	0.210
	(0.698)	(0.516)	(0.488)	(0.411)
MAJ_RES	1.491	1.212**	0.717	0.716
	(0.810)	(0.609)	(0.590)	(0.510)
RAISE CASH	1.364	0.982	0.497	0.420
	(0.856)	(0.679)	(0.636)	(0.580)
INVOLUNT	0.300	0.257	-0.477	-0.351
	(0.701)	(0.532)	(0.513)	(0.437)
SALE & LB	0.096	0.106	-0.117	-0.065
	(0.750)	(0.554)	(0.543)	(0.444)
UNDERPERF	0.551	0.929	0.398	0.763
	(0.916)	(0.691)	(0.802)	(0.618)
UNKNOWN	1.202	0.906	0.193	0.205
	(0.749)	(0.566)	(0.543)	(0.473)
Cons	-0.299	-0.275	0.251	0.152
F-Statistic	2.44**	1.95*	1.57	1.66
R^2	0.035	0.032	0.021	0.025
Observations	290	290	290	290

FINANCIAL DISTRESS omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 30: Regression of SCAARs on the Deal Motive

5.2.1.2 Hypothesis 2 – Increase in Corporate Industrial Focus

Hypothesis 2: An increase in the corporate industrial focus on average has a significantly positive impact on shareholder wealth creation.

In order to analyse the effect of an increase in the corporate industrial focus through the divestiture, two different measures are applied. The first refers to the announced motive, whereas the second refers to an objective measure defining a divestiture as focus-increasing if the seller's main two-digit SIC code is different from the code of the asset sold. Regarding the first measure, an increase in the corporate focus is indicated in 128 of the 290 cases. The abnormal returns are significantly positive in all event windows for both groups: divestitures where an increase in the corporate industrial focus is the

announced motive and where this is not the stated motive. Moreover, there are no obvious differences in the magnitude of the abnormal returns between the two groups (Table 31).

IFOCUS_A	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Increase	128	1.36***	1.28***	1.49***	1.41***
No increase	162	1.17***	1.22***	1.41***	1.46***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 31: Selloff CAARs by Increase in Focus (Announced)

Similarly, referring to the objective measure regarding an increase in the corporate focus through the transaction, there is no obvious difference between industrial focus-increasing divestitures and divestitures of assets related to the seller's core business. Again, abnormal returns are significantly positive and no clear trend regarding differences in their magnitude can be observed (Table 32).

IFOCUS_S	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Increase	144	1.01***	1.06***	1.45***	1.50***
No increase	146	1.49***	1.43**	1.44***	1.37**

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 32: Selloff CAARs by Increase in Focus (Based on SIC Code)

The results of the test for a difference between focus-increasing and non-focus-increasing divestitures are somewhat mixed. Regarding the subjective measure, the bivariate regression does not show a significant influence of an increase in the corporate focus on abnormal returns (Table 33).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
IFOCUS_A	-0.065	-0.104	-0.035	-0.076
	(0.253)	(0.200)	(0.207)	(0.181)
Cons	0.646***	0.495***	0.499***	0.438***
F-Statistic	0.07	0.27	0.03	0.17
R^2	0.000	0.001	0.000	0.001
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 33: Regression of SCAARs on an Increase in Focus (Announced)

Now, applying the objective measure, a certain influence of an increase in focus on abnormal returns cannot be rejected. Whereas for the announcement date no significant influence can be observed, abnormal returns are higher for focus-increasing divestitures in the event windows [-1;0], [0;1] and [-1;1] at the 5%, 10% and 1% alpha level respectively in a right-tailed test[35] (Table 34).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
IFOCUS_S	0.182	0.348*	0.316	0.438**
	(0.254)	(0.201)	(0.209)	(0.183)
Cons	0.527***	0.276**	0.327**	0.187*
F-Statistic	0.51	2.98*	2.29	5.71**
R^2	0.002	0.010	0.008	0.020
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 34: Regression of SCAARs on an Increase in Focus (Based on SIC Code)

As the first measure related to the announcement of the management may be biased and not as precise as the objective measure, the author concentrates his attention on the results of the objective measure. The finding of a significant positive influence of an increase in the corporate focus supports the hypothesis formulated. Hence, it seems that focus-increasing divestitures can serve as an instrument to reduce harmful unrelated diversification and move a company's resources to higher valued uses; thereby creating value for the shareholders. Moreover, capital misallocations caused by principal-agent issues can be reduced and efficiency improved. Figure 21 illustrates the differences in the standardised abnormal returns between focus-increasing and non-focus-increasing divestitures based on the objective measure applying the two-digit SIC code.

[35] Significances differ from the ones reported in the table because the table reports the significances for the two-tailed test.

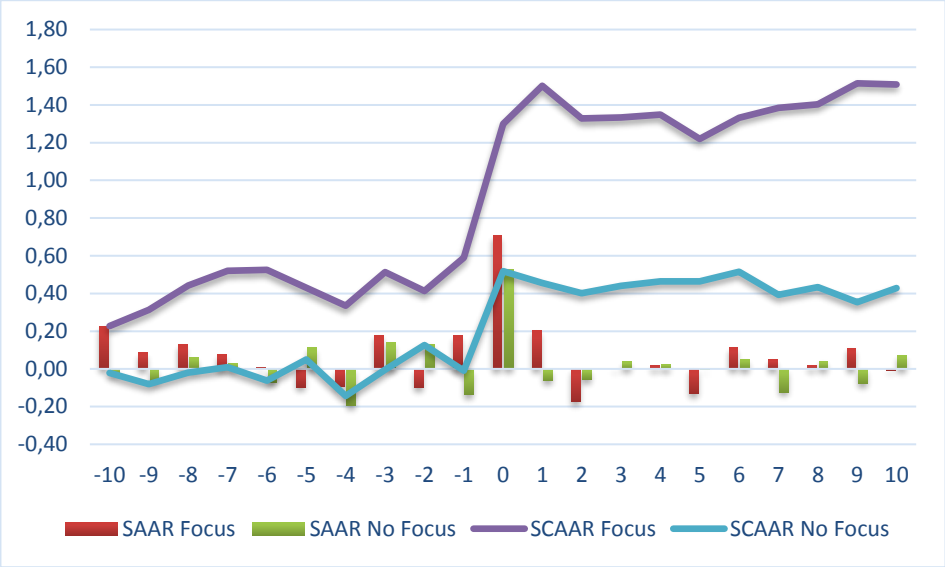

Figure 21: Selloff SAARs and SCAARs by Increase in Focus (Based on SIC Code)

5.2.1.3 Hypothesis 3 – Degree of Diversification

Hypothesis 3: The degree of diversification of the seller on average has a significantly positive effect on shareholder wealth creation of selloffs that increase the seller's industrial focus.

Looking at the generic abnormal returns segmented by the number of SIC codes of the seller, no clear trend of an influence of the degree of diversification can be observed. Abnormal returns are positive, except the [-1;0] event window for sellers with seven different SIC codes, and in most of the cases also significantly positive (Table 35). Although the magnitude of the abnormal returns initially decreases with an increasing degree of diversification, the trend does not stand up for sellers with four or more different SIC codes.

NO2	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
1	36	3.01**	3.15**	2.04**	2.19**
2	80	1.03***	1.17**	1.08**	1.22**
3	72	0.55**	0.34*	0.41	0.20
4	37	1.55*	1.44	2.52***	2.41**
5	43	0.88**	0.96**	1.43**	1.51***
6	18	1.57	2.29**	1.58	2.30
7	3	3.09	-3.11	15.32	9.12

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 35: Selloff CAARs by Degree of Diversification

A regression of the standardised abnormal returns supports this finding with all coefficients being not significantly different from zero (Table 36). Only at the announcement date [0] is the coefficient significantly negative at the 10% alpha level in a left-tailed test.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
NO2	-0.120	-0.065	-0.019	0.000
	(0.089)	(0.072)	(0.076)	(0.068)
Cons	0.994***	0.651**	0.545*	0.402
F-Statistic	1.83	0.82	0.07	0.00
R^2	0.007	0.003	0.000	0.000
Observations	289	289	289	289

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 36: Regression of SCAARs on the Degree of Diversification

Also distinguishing between focus-increasing and non-focus-increasing divestitures, no plain effect of the degree of diversification can be observed. For the [0] event window, for example, the abnormal returns have the highest magnitude for sellers operating in only one two-digit industry; regarding the other number of two-digit SIC codes, no clear trend is observable (Table 37).

NO2	1	2	3	4	5	6	7
Focus increase	3.23	-1.59	1.02**	2.18	1.14	1.03	3.09
Cases	12	23	42	19	33	11	3
No focus increase	2.89	2.08***	-0.11	0.88	0.02	2.42	-
Cases	24	57	30	18	10	7	0

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 37: Selloff Announcement Day Average Abnormal Returns by Increase in Focus (Based on SIC Code) and Degree of Diversification

The regression confirms this observation. Neither the degree of diversification nor the interaction term have a significant influence on the abnormal return, except the interaction term in the [-1;1] event window, with a negative effect at the 10% alpha level in a left-tailed test (Table 38). Apart from this exception, only the coefficient for an increase in the corporate focus is significantly positive in the [-1;0], [0;1] and [-1;1] event windows at the 10%, 10% and 5% alpha level respectively in a right-tailed test.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
IFOCUS_S	0.539	0.802	0.911	1.088*
	(0.787)	(0.612)	(0.648)	(0.576)
NO2	-0.114	-0.046	0.040	0.061
	(0.118)	(0.097)	(0.090)	(0.081)
IFOCUS_S*NO2	-0.071	-0.116	-0.176	-0.197
	(0.191)	(0.153)	(0.165)	(0.147)
Cons	0.832**	0.400	0.218	0.024
F-Statistic	0.94	1.52	0.91	2.04
R^2	0.012	0.021	0.015	0.029
Observations	289	289	289	289

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 38: Regression of SCAARs on an Increase in Focus, the Degree of Diversification and an Interaction Term of Both Variables

However, it has to be mentioned that the combined inclusion of the increase in corporate focus and the interaction term leads to increasing standard errors for both variables due to a certain extent of multicollinearity.

5.2.1.4 Hypothesis 4 – Major Restructuring

Hypothesis 4: A major restructuring, respectively a complete strategic shift in the corporate focus, on average has a significantly positive impact on shareholder wealth creation.

The hypothesis that a major restructuring, or even a complete strategic shift in the corporate focus, is related to higher abnormal returns, is derived from the corporate focus hypothesis. However, this can be seen as an even more radical increase or change in the corporate focus. In regard to an increase in the corporate focus, a positive influence on the abnormal returns was expected; this should be the case here as well. Regarding this variable, the author only relies on the announced motive of the transaction. Hence, results have to be considered with caution as the announcements of sellers may be biased. Looking at the abnormal returns for corporate divestitures, where a major restructuring or a strategic shift is the announced motive, which is the case in 34 of the 290 selloff cases, significantly positive abnormal returns can be observed. The same, however, is true for the group where this is not the announced motive. Yet, the abnormal returns are consistently higher for the sample of companies announcing a major restructuring, which supports the hypothesis formulated (Table 39).

MAJ_RES	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Yes	34	2.10***	2.38***	2.03***	2.31***
No	256	1.14***	1.09***	1.37***	1.32***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 39: Selloff CAARs by Major Restructuring

A test for the difference between divestitures as a consequence of a major restructuring and divestitures conducted for other motives reveals a significantly positive effect of a major restructuring at the 10% alpha level in all event windows. A two-tailed test, as reported in Table 40, is insignificant. Hence, it seems that a major restructuring also influences abnormal returns positively, which supports the hypothesis formulated.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MAJ_RES	0.651	0.553	0.549	0.525
	(0.463)	(0.364)	(0.374)	(0.335)
Cons	0.541***	0.384***	0.419***	0.343***
F-Statistic	1.98	2.32	2.15	2.45
R^2	0.009	0.011	0.010	0.012
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses.

Table 40: Regression of SCAARs on a Major Restructuring

5.2.1.5 Hypothesis 5 – Increase in Corporate Geographic Focus

Hypothesis 5: An increase in the corporate geographic focus on average has no significant impact on shareholder wealth creation.

In order to analyse the effect of an increase in the geographic focus, two variables have been developed. First, a divestiture is considered as geographic focus-increasing if the divested asset is a foreign asset. Second, in order to capture a 'geographic overdiversification', a divestiture is considered as geographic focus-increasing if the divested asset is a non-European asset. Regarding the divestiture of foreign assets, i.e. the first measure, the abnormal returns are significantly positive in all event windows except the [-1;1] window (Table 41). However, in relation to the divestiture of domestic assets, where the abnormal returns are highly significantly positive in all event windows, the abnormal returns tend to be lower for foreign divestitures.

FOREIGN	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Foreign	134	0.69***	0.49**	0.69*	0.49
Domestic	156	1.73***	1.89***	2.09***	2.25***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 41: Selloff CAARs by Origin of Divested Asset: Foreign vs Domestic

Figure 22 shows the differences in the standardised abnormal returns between the two groups.

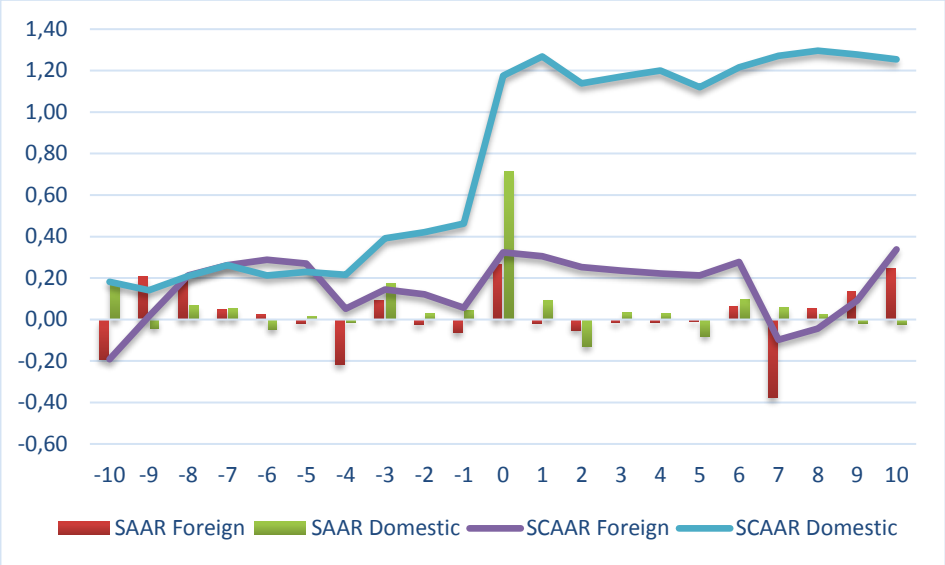

Figure 22: Selloff SAARs and SCAARs by Origin of Divested Asset: Domestic vs Foreign

This first impression regarding geographic focus-increasing divestitures is supported by the second measure. Here, the abnormal return for divestitures of assets based outside of Europe is positive but mostly insignificant. A significantly positive abnormal return is reported only for the [0] event window at the 10% alpha level. By contrast, abnormal returns for divestitures of assets based within Europe are highly significantly positive in all reported event windows (Table 42).

NON_EU	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Non-European	62	0.46*	0.17	0.89	0.60
European	228	1.47***	1.54***	1.60***	1.66***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 42: Selloff CAARs by Origin of Divested Asset: European vs Non-European

The impression regarding the influence of an increase in the geographic focus is supported by the statistical analyses. The regression results show a highly significantly negative influence on the abnormal returns if the divested asset is a foreign asset (Table 43).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
FOREIGN	-0.658***	-0.551***	-0.583***	-0.545***
	(0.240)	(0.191)	(0.201)	(0.177)
Cons	0.921***	0.703***	0.753***	0.657***
F-Statistic	7.53***	8.31***	8.46***	9.54***
R^2	0.023	0.026	0.027	0.030
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 43: Regression of SCAARs on Origin of Divested Asset: Foreign vs Domestic

Similarly, the abnormal returns are significantly lower for the divestiture of non-European assets at the 5% – respectively 10% – alpha level (Table 44). Hence, it seems that the disadvantages of a reduction in the geographic diversification mentioned by Veld and Veld-Merkoulova (2004), i.e. decreasing economies of scale, a weakened position towards international oriented competitors, or even the signal that the prior diversification may have been a mistake, outweigh the advantages that are basically again related to the reduction of agency costs and the resource-based view.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
NON_EU	-0.447**	-0.393**	-0.394*	-0.382*
	(0.224)	(0.184)	(0.219)	(0.194)
Cons	0.713***	0.533***	0.568***	0.486***
F-Statistic	4.00**	4.57**	3.24*	3.87*
R^2	0.007	0.009	0.008	0.010
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 44: Regression of SCAARs on Origin of Divested Asset: Non-European vs European

5.2.1.6 Hypothesis 6 – Financial Distress

Hypothesis 6: The announcement that a selloff is motivated by financial distress on average has a significantly negative impact on shareholder wealth creation.

Similar to the increase in the corporate industrial focus, for the variable financial distress, two different measures are applied. Again, the first refers to the announcement by the management and is thus of a subjective nature and may be biased; the second is

of an objective nature and refers to Altman's z''-score. Regarding the second measure, a seller is regarded to suffer from financial distress if the z''-score is less than 1.1. In addition, cases where the financial distress is publicly known, as, for example, if the seller is in bankruptcy proceedings, were manually added to the distress group.

Applying the announced motive of financial distress as a measure, it appears that the abnormal returns would be lower for sellers conducting a selloff because of financial distress, looking at the abnormal returns in the [0] and [-1;0] windows, where the average abnormal returns are even (insignificantly) negative (Table 45). However, looking at the other event windows, no obvious tendency can be observed. Excluding the SAG Solarstrom case from the sample, the average abnormal returns for the distress sample become positive (5.76%, 4.19%, 7.78%, 6.20%), although still insignificant applying a sign test.

DISTRESS_A	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Distress	14	-1.25	-2.08	1.81	0.98
No distress	276	1.38***	1.41***	1.43***	1.46***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 45: Selloff CAARs by Seller Financial Condition: Distressed vs Healthy (Announced)

Looking at the z''-score as indicator for financial distress, the abnormal returns seem to be lower for distressed than for healthy firms (Table 46). Whereas the abnormal returns are highly significantly positive for all event windows for healthy firms, abnormal returns are only weakly significant for distressed firms in the [-1;1] event window.

DISTRESS_Z	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Distress	62	0.53	0.46	1.27	1.23*
No distress	222	1.39***	1.35***	1.59***	1.52***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 46: Selloff CAARs by Seller Financial Condition: Distressed vs Healthy (z''-Score)

A statistical test for the differences in abnormal returns between healthy and distressed firms supports the first impression gained by looking at the magnitude of the abnormal returns. Abnormal returns for distressed firms are significantly lower in the [0] and [-1;0] event windows referring to a left-tailed test, although the differences are not highly significant (Tables 47 and 48). For the event windows [0;1] and [-1;1] no statistically significant differences could be observed. This result holds for both measures of financial distress, the subjective and the objective measure. The finding of a negative influence of financial distress on abnormal returns supports the 'fire sale theory' that due to a weakened negotiation position and the time pressure because of the distressed situation, sellers are forced to eventually accept lower prices.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
DISTRESS_A	-0.963	-0.761	-0.244	-0.265
	(0.678)	(0.501)	(0.472)	(0.399)
Cons	0.664***	0.485***	0.495***	0.417***
F-Statistic	2.02	2.31	0.27	0.44
R^2	0.009	0.009	0.001	0.001
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 47: Regression of SCAARs on Seller Financial Condition: Distressed vs Healthy (Announced)

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
DISTRESS_Z	-0.495*	-0.297	-0.224	-0.141
	(0.278)	(0.221)	(0.232)	(0.189)
Cons	0.696***	0.482***	0.486***	0.389***
F-Statistic	3.18*	1.80	0.93	0.56
R^2	0.009	0.005	0.003	0.002
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 48: Regression of SCAARs on Seller Financial Condition: Distressed vs Healthy (z''-Score)

5.2.1.7 Hypothesis 7 – Involuntary Divestitures

Hypothesis 7: The rationale that selloffs are forced by antitrust authorities, regulatory issues or changes in legislation on average has a significantly negative impact on shareholder wealth creation.

For divestitures that were conducted involuntarily, for example divestitures forced by antitrust authorities, due to regulatory issues or changes in legislation, a negative influence on abnormal returns was expected. Looking at the average abnormal returns in the different event windows, the expectation seems to be justified. No significant abnormal returns are observed; for the [0;1] and [-1;1] event windows, returns are even (insignificantly) negative. Voluntary divestitures, on the other hand, are significantly positive in all event windows (Table 49).

INVOLUNT	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Involuntary	12	0.04	0.31	-0.38	-0.11
Voluntary	278	1.30***	1.28***	1.52***	1.50***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 49: Selloff CAARs by Voluntariness of the Deal

The bivariate regression results underpin the assumption of lower abnormal returns for involuntary divestitures. In all event windows, the abnormal returns are significantly lower than their voluntary counterparts (Table 50). Hence, it seems that indeed, the profitability of involuntary selloffs is lower than of voluntary selloffs. A negative shareholder value creation in absolute terms can, however, not be proved.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
INVOLUNT	-0.644***	-0.487**	-0.740***	-0.629***
	(0.231)	(0.216)	(0.239)	(0.212)
Cons	0.644***	0.469***	0.514***	0.431***
F-Statistic	7.79***	5.09**	9.60***	8.79***
R^2	0.004	0.003	0.007	0.006
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 50: Regression of SCAARs on the Voluntariness of the Deal

5.2.1.8 Hypotheses 8–11 – Use of Proceeds

Hypothesis 8: The announced use of proceeds on average has a significant impact on shareholder wealth creation in the sense that abnormal returns are expected to be highest if the proceeds are distributed to the shareholders and smallest if the proceeds are retained within the firm.

As expected, extraordinary abnormal returns in particular can be observed for sellers intending to pay out the proceeds of the sale to their shareholders (Table 51). The average abnormal return is in double figures for all event windows. However, with only four cases, no parametric significance test can be applied here. Still, for the event windows [0;1] and [-1;1], a sign test shows that returns are significantly positive. For the event window [0;1], the individual abnormal returns in the four cases amount to 7.77%, 8.70%, 13.19% and 18.31%. Comparing the other forms, no clear tendency can be observed. Whereas at the [0] and [-1;1] event windows, the 'retain/reinvest' sample obtains higher abnormal returns than the 'reduce debt' sample, the magnitude pretty much matches for the [0;1] and [-1;1] event windows. Moreover, it appears that irrespective of the intended use of proceeds, abnormal returns are higher if the use of proceeds is announced at all compared to the sample where the sellers keep the use of proceeds secret. This, however, will be investigated later regarding the transparency variable.

PROCEEDS	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Payout	4	10.18	10.80	11.99**	12.62**
Reduce debt	56	0.60*	0.48**	2.01**	1.89***
Retain/reinvest	35	3.10**	3.08**	1.87**	1.85*
Unknown	195	0.93***	0.94***	0.99***	1.00***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 51: Selloff CAARs by Intended Use of Proceeds

The F-test of the regression shows that the announced use of proceeds significantly influences the abnormal returns (Table 52). However, it seems that the only significant differences between the groups are versus the 'pay-out' group, and that regarding the

two forms ‘reduce debt’ and ‘retain/reinvest’ the possible advantages and disadvantages described in section three balance each other.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
PAYOUT	3.886**	3.070**	4.413***	3.863**
	(1.852)	(1.402)	(1.682)	(1.504)
DEBT	-0.165	-0.000	-0.011	0.084
	(0.275)	(0.227)	(0.236)	(0.198)
REINVEST	0.594	0.290	0.224	0.074
	(0.506)	(0.383)	(0.367)	(0.301)
Cons	0.524***	0.371***	0.398***	0.326***
F-Statistic	2.14*	1.78	2.41*	2.24*
R^2	0.053	0.046	0.085	0.082
Observations	290	290	290	290

UNKNOWN omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 52: Regression of SCAARs on Intended Use of Proceeds

As argued before, the effect for firms using the proceeds to reduce debt should depend on their financial situation. Whereas reducing debt in a good financial situation should create new agency costs and therefore be perceived negatively, reducing debt in a distressed situation could lower the distress and be perceived positively.

Hypothesis 9: The higher the debt level of the divesting company, the significantly higher are the average abnormal returns if the proceeds are used to reduce debt.

Hypothesis 10: The more serious the financial distress of the divesting company, the significantly higher are the average abnormal returns if the proceeds are used to reduce debt.

Similarly, the shareholder value effect for firms reinvesting the proceeds should depend on their growth perspectives in the sense that for firms with good growth perspectives, reinvesting the proceeds should create shareholder value and for firms with poor growth perspectives, reinvesting the proceeds should be related to lower or even negative shareholder value effects.

Hypothesis 11: The higher the growth opportunities of the divesting company, the significantly higher are the average abnormal returns if the proceeds are reinvested or retained by the seller.

In order to account for those relationships, an interaction term for the form 'retain/reinvest' based on the market-to-book value of the seller and for the form 'reduce debt' based on the seller's debt/equity ratio and the seller's z''-score was created. However, the author excluded the interaction DEBT*DE from his analysis to overcome a multicollinearity issue between the debt/equity ratio and the market-to-book value. With respect to the interaction term DEBT*ZSCORE, a clear trend cannot be observed if the abnormal returns of sellers using the proceeds to reduce debt are higher for distressed or healthy firms (Table 53).

DEBT	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Distress	23	-0.69	-1.32	2.86	2.23
No distress	32	1.55**	1.78***	1.49*	1.72***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 53: Selloff CAARs if Proceeds are Used to Repay Debt by Seller Financial Condition

Regarding the interaction term REINVEST*MTB, the highest magnitude of the abnormal returns, and also the only significantly positive returns, are reported for the sellers with the highest market-to-book value. However, a clear trend of the abnormal returns regarding the first three quartiles cannot be observed (Table 54).

REINVEST	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
1st Quartile MTB	12	3.34	4.53	0.22	1.41
2nd Quartile MTB	6	-2.02	-2.79	-2.49	-3.25
3rd Quartile MTB	10	2.39	1.84	2.74	2.19
4th Quartile MTB	7	8.11***	7.37**	7.20	6.46

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 54: Selloff CAARs if Proceeds are Retained or Reinvested by Seller Growth Perspectives

The results of a regression support the impression gathered from comparing the abnormal returns of firms using the proceeds to reduce debt based on their financial situation and firms using the proceeds to reinvest based on their growth perspectives. Contrary to the expectation of the author, the financial situation neither has an influence on the abnormal returns of sellers using the proceeds to reduce debt, nor do the growth perspectives influence the abnormal returns of firms reinvesting the sale proceeds (Table 55).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
PAYOUT	2.778	2.197	1.654**	1.540**
	(2.089)	(1.445)	(0.777)	(0.707)
DEBT	-0.398	-0.200	-0.022	0.048
	(0.400)	(0.290)	(0.420)	(0.304)
ZSCORE	0.003	-0.000	0.029*	0.022
	(0.042)	(0.031)	(0.018)	(0.016)
DEBT*ZSCORE	0.224	0.213	0.078	0.108
	(0.209)	(0.134)	(0.160)	(0.112)
REINVEST	0.725	0.419	0.093	-0.003
	(0.583)	(0.438)	(0.392)	(0.320)
MTB	0.041	0.032	-0.053	-0.041
	(0.089)	(0.068)	(0.054)	(0.051)
REINVEST*MTB	-0.037	-0.032	0.055	0.039
	(0.093)	(0.071)	(0.055)	(0.052)
Cons	0.400*	0.277	0.387**	0.310**
	(0.213)	(0.173)	(0.162)	(0.154)
F-Statistic	0.79	0.87	1.60	1.88*
R^2	0.038	0.034	0.040	0.040
Observations	273	273	273	273

UNKNOWN omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 55: Regression of SCAARs on the Intended Use of Proceeds and Interaction Terms

However, the model also here suffers from multicollinearity between the market-to-book ratio and the interaction term REINVEST*MTB which causes increasing standard errors.

5.2.1.9 Hypothesis 12 – Transparency

Hypothesis 12: The disclosure of the transaction details as the price on average has a significantly positive impact on shareholder wealth creation.

Contrary to the expectation, the transparency variables show no obvious impact on the abnormal returns. The magnitude is noticeably similar for the subsamples where a price is disclosed directly at the announcement, where no price is announced and where there is no obvious information about an announcement (Table 56).

PRICE_A	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Announced	218	1.18***	1.04***	1.38***	1.25***
Not announced	40	1.35***	1.42***	1.38	1.45
Unknown	32	1.65	2.41	1.96	2.72**

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 56: Selloff CAARs by Announcement of Transaction Price

The same holds true for the announcement of a book effect of the divestiture (Table 57) and for the announcement of the motive (Table 58). Also here, there is no clear trend in the magnitude and the sign of the abnormal returns; however, due to the small sample size regarding the announcement of a book effect, no significance based on a parametric test can be reported for the announcement subsample.

BOOKGAIN_A	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Announced	23	1.99	2.04	1.46	1.51
Not announced	267	1.19***	1.18***	1.44***	1.43***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 57: Selloff CAARs by Announcement of Book Effect

MOTIVE_A	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Announced	236	1.12***	1.07***	1.50***	1.45***
Not announced	54	1.85***	2.01**	1.22*	1.38*

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 58: Selloff CAARs by Announcement of the Motive

The only positive effect of a certain transparency at the announcement can be assumed regarding the announcement of the use of proceeds (Table 59) and the announcement of the mode of payment (Table 60). Here, the magnitude of the abnormal returns where the use of proceeds is announced is higher, the same as for the cases where the mode of payment is announced. However, also for the non-announcement group, abnormal returns are significantly positive.

PROCEEDS_A	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Announced	95	1.92***	1.87***	2.38***	2.33***
Not announced	195	0.93***	0.94***	0.99***	1.00***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 59: Selloff CAARs by Announcement of Intended Use of Proceeds

CONSID_A	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Announced	138	2.22***	2.05***	2.45***	2.28***
Not announced	152	0.37***	0.51***	0.54***	0.67***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 60: Selloff CAARs by Announcement of Form of Consideration

Referring to statistical tests regarding the transparency variables, the only significant difference that can be detected is regarding the announcement of the price, where announcing the price leads to significantly higher abnormal returns in the [0;1] event window (Table 61). All other event windows and all tests regarding the other transparency variables do not reveal a significant difference between transparent and 'intransparent' selloff transactions. This result suggests that – contrary to the assumption formulated in the hypothesis – transparency does not necessarily serve as a signal for good news and that unfavourable information is rather suppressed. The

regression results regarding the other transparency variables can be found in the Appendix (Tables 120–123, pp. 239–240).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
UNKNOWN	-0.384	-0.211	0.143	0.163
	(0.309)	(0.293)	(0.277)	(0.268)
PRICE_A	0.261	-0.006	0.460**	0.219
	(0.230)	(0.228)	(0.218)	(0.213)
Cons	0.464***	0.476**	0.122	0.222
F-Statistic	2.28	0.35	2.42*	0.53
R^2	0.009	0.001	0.010	0.002
Observations	290	290	290	290

NOT_ANNOUNCED omitted

*, **, *** indicate statistical significance at the 10% 5%, and 1% level, respectively. Standard errors in parentheses.

Table 61: Regression of SCAARs on the Announcement of the Transaction Price

5.2.1.10 Hypotheses 13–14 – Participation in the Buyer's Value Creation Potential

Hypothesis 13: The industrial relatedness between the buyer and the asset sold on average has a significantly positive impact on shareholder wealth creation.

An industrial relatedness between the buyer and the asset sold is expected to have a positive influence on abnormal returns because, in these situations, buyers may have the possibility to run the disposed asset more efficiently than the seller and may thus be able to pay a price that exceeds the value in use for the seller. In this way, sellers have the chance to participate in the buyer's value creation potential and obtain higher abnormal returns as if the asset sold and the buyer are unrelated. Looking at the actual figures, the fit between the asset sold and the buyer does not seem to influence abnormal returns. Abnormal returns are significantly positive for both groups and no clear trend can be observed regarding the magnitude (Table 62).

FIT	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Fit	70	1.23**	1.50***	1.04**	1.31**
No fit	220	1.26***	1.16***	1.58***	1.48***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 62: Selloff CAARs by Strategic Fit Between Target and Buyer

This is supported by the results of the statistical test for differences between the two groups which are insignificant in all tested event windows (Table 63).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
FIT	0.171	0.301	0.055	0.194
	(0.369)	(0.277)	(0.288)	(0.250)
Cons	0.576***	0.376***	0.470***	0.358***
F-Statistic	0.21	1.18	0.04	0.60
R^2	0.001	0.006	0.000	0.003
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 63: Regression of SCAARs on the Strategic Fit Between Target and Buyer

Referring to the findings of John and Ofek (1995) for the US and Clubb and Stouraitis (2002) for European selloffs and the theoretical argumentation behind the hypothesis, the result is somewhat unexpected. Hence, in order to analyse this relationship more in depth, the author follows the approach of John and Ofek (1995) and connects this hypothesis to the corporate focus hypothesis. Therefore, the sample is divided into four groups. Following both hypotheses, the highest abnormal returns are expected for sellers selling unrelated assets (according to the two-digit SIC code) to buyers related to the respective assets sold (according to the four-digit SIC code). The lowest abnormal returns are thus expected for sellers selling related assets to buyers whose main operations are unrelated to those of the asset sold.

Hypothesis 14: The combination of an increase in the industrial corporate focus and a strategic fit between the buyer and asset sold on average has a significantly positive impact on shareholder wealth creation.

Looking at the generic abnormal returns for the four groups, the expected relationship cannot be observed. Although the abnormal returns for the sellers that sell an unrelated asset to a buyer operating in the same industry as the disposed asset are positive in all event windows, a statistical significance based on a sign test cannot be reported. Unexpectedly, the abnormal returns for sellers selling a related asset to a buyer operating in an industry unrelated to the disposed asset are of a similar magnitude and significantly positive in all event windows, although not always highly significant. For the sellers that did not increase their industrial focus through the transaction, but had the chance to participate in the buyer's value creation potential, abnormal returns are almost always insignificantly positive. Sellers that increased their corporate industrial focus, but sold the asset to a buyer unrelated to the asset sold, obtained highly significantly positive abnormal returns (Table 64).

FOCUSFIT	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Focus & fit	29	1.59	1.63	1.53	1.57
No focus & fit	41	0.98	1.41*	0.69	1.12
Focus & no fit	115	0.86***	0.91***	1.43***	1.48***
No focus & no fit	105	1.69***	1.43*	1.73***	1.47*

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 64: Selloff CAARs by Combination of Strategic Fit Between Target and Buyer and Increase in Focus

Taking into account the result of the F-test of the bivariate regression, the assumption expressed based on the average abnormal returns seems to come true. The F-test does not show a significant result for any of the four regressions (Table 65).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
FOCUS_NOFIT	-0.041	0.268	0.106	0.330*
	(0.251)	(0.208)	(0.217)	(0.191)
FOCUS_FIT	0.715	0.862*	0.710	0.874*
	(0.658)	(0.506)	(0.537)	(0.473)
NOFOCUS_FIT	-0.251	0.143	-0.313	0.008
	(0.407)	(0.302)	(0.293)	(0.247)
Cons	0.598***	0.236	0.415***	0.185
F-Statistic	0.58	1.28	1.27	1.98
R^2	0.013	0.021	0.020	0.029
Observations	290	290	290	290

NOFOCUS_NOFIT omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 65: Regression of SCAARs on Combination of Strategic Fit Between Target and Buyer and Increase in Focus

5.2.1.11 Hypothesis 15 – Type of Buyer

Hypothesis 15: Selloffs to strategic investors on average create significantly more shareholder wealth than selloffs to private equity investors and managers via leveraged buyouts.

Contrary to the expectation, abnormal returns tend to be higher if the management acts as buyer in divestiture transactions. Abnormal returns for this subsample are relatively high and even significant when applying non-parametric tests. This contrasts with the argumentation that because of the possibility of an absence of arm's-length bargaining as well as the danger of managerial self-dealing, abnormal returns were expected to be lower than for other groups of buyers. Regarding strategic or private equity buyers, both groups show significantly positive abnormal returns and no obvious difference can be observed (Table 66).

BUYER	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Strategic	213	1.19***	1.16***	1.08***	1.05***
Private Equity	68	0.81**	0.85*	1.35***	1.39**
Management	8	6.91**	7.42**	10.02	10.53**

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 66: Selloff CAARs by Type of Buyer

The regression results are in line with the initial observation. Abnormal returns are significantly higher in the case of management buyouts compared to selloffs to strategic or private equity investors (Table 67). Furthermore, in the [0] and [-1;0] event windows, selloffs to strategic investors lead to significantly higher abnormal returns than selloffs to private equity investors at the 5% and 10% alpha level respectively applying a right-tailed test (not reported). Hence, the hypothesis seems to be true for strategic versus private equity buyers at least in regard to two event windows; the higher abnormal returns for the managerial buyers, however, cannot be explained with the argumentation provided earlier.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MBO	1.067*	0.806*	0.600	0.534
	(0.541)	(0.473)	(0.427)	(0.379)
PE	-0.422*	-0.310	-0.128	-0.114
	(0.218)	(0.188)	(0.197)	(0.177)
Cons	0.689***	0.503***	0.486***	0.410***
F-Statistic	4.95***	3.45**	1.45	1.44
R^2	0.015	0.013	0.004	0.004
Observations	289	289	289	289

STRATEGIC omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 67: Regression of SCAARs on the Type of Buyer

5.2.1.12 Hypothesis 16 – Form of Payment

Hypothesis 16: Selloffs, where the form of payment is cash, on average create significantly more shareholder wealth than selloffs settled with other or hybrid forms of payment.

The abnormal returns are significantly positive for cash transactions as well as for non-cash transactions or transactions where the terms of settlement are not announced (Table 68). Yet, the abnormal returns tend to be higher for transactions where the consideration announced is cash. At all four event windows, the difference is at least 1.32 percentage points.

CASH	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Cash	125	2.19***	2.00***	2.44***	2.25***
No cash	165	0.54***	0.68***	0.69***	0.82***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 68: Selloff CAARs by Form of Consideration

However, the results do not withstand a statistical test for the difference between the two groups or even the test for higher abnormal returns of selloff transactions where the mode of payment is cash (Table 69).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
CASH	0.156	0.036	0.113	0.032
	(0.253)	(0.204)	(0.212)	(0.189)
Cons	0.550***	0.433***	0.435***	0.391***
F-Statistic	0.38	0.03	0.28	0.03
R^2	0.001	0.000	0.001	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 69: Regression of SCAARs on the Form of Consideration

Since cases where the consideration is unknown are included in the non-cash group as well, a further test distinguishing between cases where the mode of payment is cash, non-cash or unknown was applied. The results suggest that the real difference in abnormal returns is in fact between cases where the mode of payment is announced respectively unknown and not between cash and non-cash transactions. The abnormal returns for the non-cash transactions are of a similar magnitude as the cash transactions, although a statistically positive average abnormal return can only be reported for the [0;1] event window applying a non-parametric sign test (Table 70). However, a test for the difference between the three groups also does not reveal a significant difference

(Table 124, Appendix, p. 241), which contradicts the author's expectation based on the argumentation provided in section 3.2.6.

PAYM	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Cash	125	2.19***	2.00***	2.44***	2.25***
Other	13	2.51	2.58	2.59**	2.52
Unknown	152	0.37***	0.51***	0.67***	0.54***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 70: Selloff CAARs by Form of Consideration (Detailed)

5.2.1.13 Hypothesis 17 – Relative Size

Hypothesis 17: The relative size of selloffs on average has a significantly positive impact on shareholder wealth creation.

The relative size, which is measured as the transaction value as proportion of the market capitalisation of the seller ten days before the announcement in order to rule out any influences of the announcement on the market value, serves as a proxy for the degree of restructuring undertaken. In line with most of the previous research, an increasing relative size is expected to influence abnormal returns positively if corporate divestitures are on average value creating corporate activities. Forming three categories for deals with a relative size up to 10%, 50% and from 50% onwards, it looks as if the findings from previous research would be confirmed. For small deals, abnormal returns are rather small and also not highly significantly positive, if at all. With an increasing relative size of the deal, indeed, abnormal returns become highly significantly positive and the magnitude of the abnormal returns also increases (Table 71).

SIZE	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Small	184	0.28**	0.21*	0.19	0.12
Medium	61	1.64***	1.63***	2.69***	2.69***
Large	45	4.72***	4.94***	4.89***	5.10***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 71: Selloff CAARs by Relative Size of the Deal

Figure 23 illustrates the differences in the standardised abnormal returns between small, medium and large divestitures.

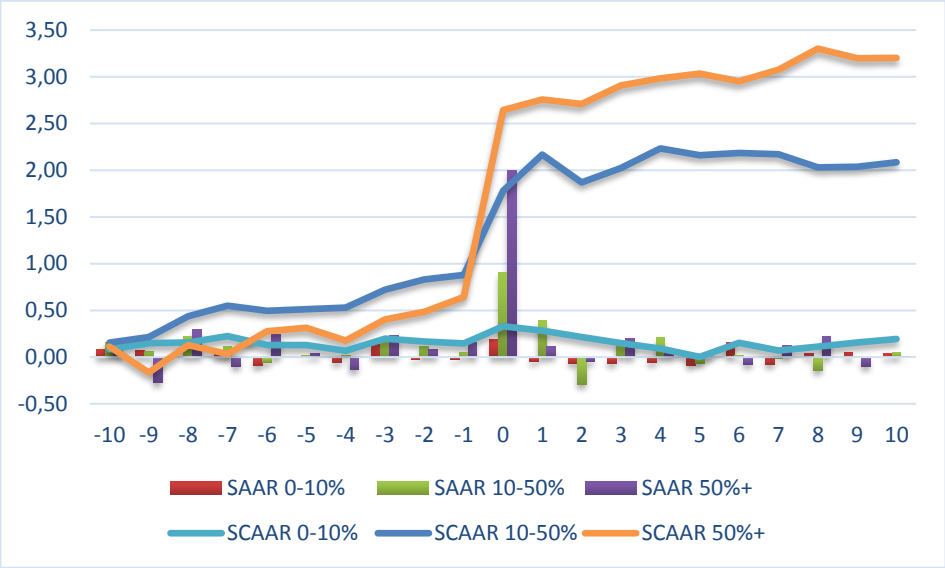

Figure 23: Selloff SAARs and SCAARs by Relative Size of the Deal

The regression results prove the relationship and report a significant influence for all reported event windows. Moreover, the relative size has by far the highest explanatory power with a R^2 ranging from 8.9% to 9.3% (Table 72).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.715**	0.556**	0.811***	0.700***
	(0.285)	(0.229)	(0.240)	(0.211)
LARGE	1.814***	1.410***	1.390***	1.236***
	(0.578)	(0.446)	(0.437)	(0.379)
Cons	0.185*	0.113	0.097	0.065
F-Statistic	7.65***	7.47***	9.96***	9.96***
R^2	0.093	0.089	0.092	0.092
Observations	290	290	290	290

SMALL omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 72: Regression of SCAARs on the Relative Size of the Deal

5.2.1.14 Hypothesis 18 – Seller Growth Perspectives

Hypothesis 18: The growth perspectives of the parent company on average have a significantly positive influence on shareholder wealth creation.

In order to display the abnormal returns based on different degrees of growth perspectives, proxied by the market-to-book value of the seller, the sample was divided into four groups. The results for this variable are somewhat inconclusive. The highest returns are observed for the first and fourth quartile; for the second quartile, the abnormal returns are not even significant for all event windows (Table 73).

MTB	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
1st Quartile	76	1.59***	1.76***	2.15***	2.32***
2nd Quartile	68	0.37	0.44	0.83*	0.91**
3rd Quartile	73	1.08**	0.99**	1.12**	1.03**
4th Quartile	72	2.06***	2.00***	1.69***	1.63**

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 73: Selloff CAARs by Seller Market-to-Book Ratio

The bivariate regressions, including the market-to-book ratio as continuous variable as well as dummy variable based on quartiles, show highly insignificant results (Table 74 and Table 125, Appendix, p. 241). Hence, against the expectation, the growth perspectives do not seem to directly influence abnormal returns in this sample.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MTB	0.011	0.005	-0.001	-0.004
	(0.013)	(0.010)	(0.007)	(0.006)
Cons	0.594***	0.443***	0.489***	0.418***
F-Statistic	0.77	0.23	0.04	0.36
R^2	0.001	0.000	0.000	0.000
Observations	289	289	289	289

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 74: Regression of SCAARs on Seller Market-to-Book Ratio (Continuous)

5.2.1.15 Hypothesis 19 – Seller Performance Prospects

Hypothesis 19: The stock performance of the seller in the period before the announcement on average has a significantly positive impact on shareholder wealth creation.

In order to capture the influence of the performance prospects of the seller, the buy-and-hold return in the estimation period was applied as a proxy. Distinguishing between sellers with a positive and sellers with a negative buy-and-hold return prior to the divestiture announcement, it appears that sellers with a negative pre-divestiture stock performance obtain higher abnormal returns, although the returns for both groups are significantly positive in all event windows (Table 75).

STOCK	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Positive	180	1.05***	1.11***	1.02***	1.08***
Negative	110	1.59***	1.47***	2.14***	2.02***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 75: Selloff CAARs by Seller Performance Prospects

The statistical tests come to the same conclusion and assign higher abnormal returns to sellers with a negative stock performance in the estimation period (Table 76). This could be interpreted in the way that the divestiture is regarded by the capital market as a way out to overcome the unfavourable outlook and improve the seller's future prospects.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
STOCK	-0.506*	-0.399*	-0.395*	-0.356*
	(0.290)	(0.226)	(0.232)	(0.202)
Cons	0.932***	0.696***	0.729***	0.625***
F-Statistic	3.06*	3.11*	2.91*	3.09*
R^2	0.013	0.013	0.012	0.012
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 76: Regression of SCAARs on Seller Performance Prospects

5.2.1.16 Hypothesis 20 – Seller Profitability

Hypothesis 20: The profitability of the seller on average has a significantly positive impact on shareholder wealth creation.

Solely looking at the generic abnormal returns, there is no obvious relationship between the profitability of the seller and divestiture performance. A positive profitability shows higher abnormal returns in the [0] and [-1;0] event windows, whereas a negative profitability leads to higher abnormal returns in the [0;1] and [-1;1] event windows (Table 77). The standardised abnormal returns, however, are insignificantly positive for sellers with a negative return on assets but highly significantly positive for sellers with a positive return on assets. Hence, a positive effect of the profitability on the abnormal returns is assumed.

ROA	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Positive	236	1.57***	1.67***	1.41***	1.51***
Negative	42	0.94	0.67	2.01	1.74

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 77: Selloff CAARs by Seller Profitability

The bivariate regression, where the return on assets is included as a quantitative variable, shows a highly significantly positive influence of the profitability of the seller on abnormal returns. The coefficients are highly significant in every event window and the R^2 is also of a considerable size, compared to other variables (Table 78). This supports the theory that sellers, which are in a strong financial condition, are not subject to the pressure of an immediate sale but can instead negotiate more favourable conditions which influences the abnormal return positively.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
ROA	0.048***	0.037***	0.034***	0.029***
	(0.014)	(0.011)	(0.007)	(0.006)
Cons	0.298**	0.209	0.252**	0.205**
F-Statistic	11.21***	11.77***	26.3***5	27.68***
R^2	0.134	0.122	0.093	0.092
Observations	278	278	278	278

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 78: Regression of SCAARs on the Seller Profitability

5.2.1.17 Hypothesis 21 – Seller Liquidity

Hypothesis 21: The degree of liquidity of the seller on average has a significantly positive impact on shareholder wealth creation.

The quick ratio states whether a company is able to meet its short-term liabilities with its liquid assets. Hence, a quick ratio above one indicates that the seller is in a healthy condition, whereas values below one are rather problematic. Nevertheless, the acceptable values regarding the quick ratio vary between industries and no strict rule exists which denotes a healthy seller or a seller that suffers from financial distress. Similar to the profitability of the seller, it seems that for the event windows [0] and [-1;0], a quick ratio above one influences abnormal returns positively. However, the picture changes looking at the [0;1] and [-1;1] event windows. For both groups, the abnormal returns are significantly positive at the 1% alpha level (Table 79).

QUICK	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Above 1	110	2.03***	2.05***	1.40***	1.41***
Below 1	166	1.03***	1.10***	1.43***	1.50***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 79: Selloff CAARs by Seller Liquidity

Testing for the differences between the two groups shows no significant differences (Table 126, Appendix, p. 241). However, including the quick ratio as a continuous variable in a bivariate regression model, the quick ratio appears to be positively related to the abnormal returns, at least in the [0;1] and [-1;1] event windows (Table 80).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
QUICK	0.002	0.003	0.036**	0.0030**
	(0.276)	(0.021)	(0.015)	(0.014)
Cons	0.619***	0.452***	0.397***	0.336
F-Statistic	0.01	0.02	5.49**	4.76**
R^2	0.000	0.000	0.019	0.017
Observations	276	276	276	276

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 80: Regression of SCAARs on Seller Liquidity

5.2.1.18 Hypothesis 22 – Seller Leverage

Hypothesis 22: The degree of leverage of the seller on average has a significantly negative impact on shareholder wealth creation.

Looking at the leverage of the sellers, applying the debt/equity ratio, they seem to obtain higher abnormal returns with a lower leverage. Abnormal returns tend to be higher for the first two quartiles regarding the debt/equity ratio and are highly significantly positive, whereas significantly positive abnormal returns for the third quartile are only reported in one event window. For the last quartile, i.e. the sellers with the highest debt/equity ratio, abnormal returns are again significantly positive, although of a smaller magnitude and not as significant as for the first two quartiles (Table 81).

DE	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
1st Quartile	70	2.12***	2.50***	2.40***	2.78***
2nd Quartile	68	2.25***	1.84***	1.93***	1.62**
3rd Quartile	69	0.25	0.48*	0.08	0.31
4th Quartile	70	1.29**	1.27*	1.58**	1.56**

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 81: Selloff CAARs by Seller Leverage

The regression results support the finding of a negative relationship between the degree of leverage and the abnormal returns. Both the dummy regression, including the quartiles (Table 127, Appendix, p. 242), as well as the regression including the debt/equity ratio as continuous variable (Table 82), show a significantly negative influence of the degree of leverage on the abnormal returns, although the results regarding the continuous variable are economically insignificant.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
DE	-0.0001	-0.002**	-0.003***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Cons	0.658***	0.486***	0.506***	0.431***
F-Statistic	0.48	5.28**	8.74***	18.74***
R^2	0.000	0.000	0.001	0.001
Observations	277	277	277	277

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 82: Regression of SCAARs on Seller Leverage

5.2.1.19 Hypothesis 23 – Seller Probability of Bankruptcy

Hypothesis 23: Financial distress, respectively the probability of bankruptcy of the seller, on average has a significantly negative impact on shareholder wealth creation.

Including the z''-score as a quantitative variable, instead of a dummy as for hypothesis 6, also supports the result that financial distress has a negative influence on abnormal returns. The coefficient for the z''-score is highly significantly positive for the [0;1] and [-1;1] event windows, attributing higher abnormal returns to sellers with a higher z''-score, i.e. sellers with a lower risk of bankruptcy (Table 83).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
ZSCORE	0.027	0.018	0.038***	0.030***
	(0.034)	(0.024)	(0.012)	(0.011)
Cons	0.513***	0.378***	0.298***	0.256***
F-Statistic	0.65	0.55	9.59***	7.70***
R^2	0.009	0.006	0.027	0.022
Observations	273	273	273	273

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 83: Regression of SCAARs on Seller Probability of Bankruptcy

5.2.1.20 Further Bivariate Findings

Economic Environment

The economic environment at the time of the divestiture announcement seems to play a definite role in explaining abnormal returns. Abnormal returns are significantly positive for both groups, but seem to be higher for abnormal returns announced in times of recession, except the [-1;1] event window (Table 84).

CYCLE	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Boom	223	0.87***	1.00***	1.34***	1.47***
Recession	67	2.52***	2.04***	1.81**	1.33**

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 84: Selloff CAARs by Economic Environment

However, a significant difference can only be confirmed regarding the [0] event window. For the other event windows, the results are insignificant and for the [-1;0] and [0;1] event windows, even the sign of the coefficient changes (Table 85).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
RECESSION	-0.537*	0.229	0.028	-0.100
	(0.317)	(0.253)	(0.243)	(0.217)
Cons	0.493***	0.396***	0.478***	0.428***
F-Statistic	2.87*	0.82	0.01	0.21
R^2	0.011	0.003	0.000	0.001
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 85: Regression of SCAARs on Economic Environment

Type of Asset

Looking at the type of the divested asset, abnormal returns are highest if the divested asset is a subsidiary. Also for fully integrated business units, abnormal returns are significantly positive, although smaller than for subsidiaries. For all other groups no significant abnormal returns can be reported, however, their sample is too small to apply parametric tests (Table 86).

ASSET	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Subsidiary	142	1.81***	1.87***	2.07***	2.13***
Business unit	92	0.88***	0.85***	1.05***	1.02**
Property	25	0.63	0.75	0.81	0.93
Plant	20	0.40	0.06	0.63	0.30
Rights	9	0.30	-0.14	-0.25	-0.69
Unknown	2	-0.45	-1.05	-0.82	-1.41

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 86: Selloff CAARs by Type of Asset Sold

The regression results (Table 87) reveal a significant influence of the type of the divested asset on shareholder value gains. Especially if the sold assets are rights, the abnormal returns tend to be lower, as well as in the case when the assets sold are not disclosed and, hence, the type of asset is unknown.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
PLANT	-0.712*	-0.598*	-0.432	-0.431
	(0.391)	(0.313)	(0.387)	(0.332)
PROPERTY	-0.579	-0.306	-0.318	-0.177
	(0.431)	(0.321)	(0.294)	(0.247)
RIGHTS	-0.786**	-0.714***	-0.643***	-0.654***
	(0.327)	(0.262)	(0.236)	(0.230)
SUBSIDIARY	-0.096	0.004	0.148	0.177
	(0.329)	(0.257)	(0.252)	(0.221)
UNKNOWN	-1.317***	-1.314***	-1.073**	-1.190*
	(0.286)	(0.389)	(0.416)	(0.623)
Cons	0.797***	0.546**	0.495**	0.391**
	(0.280)	(0.214)	(0.194)	(0.168)
F-Statistic	14.20***	4.91***	4.24***	4.02***
R^2	0.015	0.017	0.017	0.022
Observations	290	290	290	290

BU omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 87: Regression of SCAARs on the Type of Asset Sold

Change in Seller's Systematic Risk

A change in the systematic risk of the seller through the divestiture, measured by a significant increase or decrease in the seller's beta factor, appears to influence the abnormal returns in the sense that an increase in the systematic risk is related to lower abnormal returns as in the case of no significant change. Table 88 shows a highly significantly positive abnormal return only for the cases where the systematic risk does not significantly change; all other returns seem to be lower.

BETA	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Increase	28	0.85	0.86	0.22	0.23
Decrease	34	1.03*	1.07*	0.16	0.20
No change	226	1.74***	1.69***	2.13***	2.08***
Unknown	2	-44.55	-40.64	-37.19	-33.27

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 88: Selloff CAARs by Change in the Seller's Systematic Risk

The F-statistic of the regression (Table 89) indicates a significant influence only in the [0;1] event window where – as expected – an increase in the systematic risk leads to lower abnormal returns as in the case where the systematic risk does not significantly change in the course of the acquisition.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
UNKNOWN	-4.426	-2.918	-2.798*	-2.113*
	(2.955)	(1.864)	(1.666)	(1.178)
DECREASE	-0.181	-0.153	-0.316	-0.278
	(0.365)	(0.273)	(0.275)	(0.224)
INCREASE	-0.512**	-0.369	-0.511*	-0.423
	(0.239)	(0.237)	(0.265)	(0.277)
Cons	0.719***	0.522***	0.589***	0.493***
F-Statistic	2.22*	1.58	2.28*	2.06
R^2	0.033	0.024	0.025	0.020
Observations	290	290	290	290

NO_CHANGE omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 89: Regression of SCAARs on the Change in the Seller's Systematic Risk

Seller/Target Degree of Relationship

The relatedness of the seller and target in the sense if the transaction contained the divestiture of an asset directly or indirectly (via a subsidiary) held by the seller shows no influence on the abnormal returns (Table 90). Magnitude and significance of abnormal returns are noticeably similar in both groups, which is supported by the regression results (Table 128, Appendix, p. 242).

DIRECT	N	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
Direct	206	1.26***	1.27***	1.43***	1.45***
Indirect	84	1.24***	1.17***	1.49***	1.42***

Abnormal returns in %

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 90: Selloff CAARs by Seller/Target Degree of Relationship

5.2.2 Spinoff Event Study Results

Regarding the single-day average abnormal returns in the event period, spinoffs seem to create shareholder value on average, referring to the actual announcement date and the pre- and succeeding trading day (Table 91). However, because of the small size of the spinoffs sample with only 22 cases, no parametric tests were conducted and significances are exclusively reported for the proportion of positive abnormal returns based on a non-parametric sign test. The sign test shows a significantly positive proportion of abnormal returns only on the day prior to the announcement as well as for day [-7]. Ignoring the violated normality assumption and incorrectly applying the standardised cross-sectional test would lead to the same result with regard to the immediate announcement.

Trading Day	AAR	SAAR	Median AR	Proportion positive ARs	Absolute AAR
-10	0.21	0.07	-0.18	40.91	-1.81
-9	-0.21	-0.14	-0.15	45.45	-5.81
-8	-0.38	-0.26	-0.42	36.36	3.19
-7	0.44	0.37	0.22	68.18**	21.27
-6	0.04	-0.01	0.07	50.00	-21.45
-5	0.07	0.13	0.23	63.64*	2.29
-4	0.71	0.31	0.35	63.64*	38.22
-3	0.16	0.20	0.13	54.55	18.48
-2	-0.53	-0.32	-0.30	40.91	1.94
-1	0.97	0.47	0.39	68.18**	-11.88
0	0.95	1.31	0.38	54.55	63.91
1	0.86	-0.06	-0.03	50.00	-36.32
2	-1.05	-0.18	-0.21	45.45	-30.09
3	0.52	0.42	-0.10	50.00	33.39
4	0.51	0.18	-0.05	45.45	6.94
5	0.51	0.20	-0.03	45.45	-2.83
6	-0.41	-0.28	0.08	59.09	30.10
7	-0.16	-0.04	0.01	50.00	34.66
8	-0.44	-0.29	-0.36	36.36	-22.58
9	0.36	-0.20	-0.20	40.91	-22.05
10	-0.67	-0.32	-0.35	45.45	1.57

AAR and proportion of positive AR in %; absolute AAR in EUR 1,000,000.

N=22; *, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed Fisher's exact test.

Table 91: Daily Average Abnormal Spinoff Returns in the Event Period

Regarding the different event windows within the event period, all cumulative average abnormal returns are positive (Table 92). Likewise, the absolute cumulative average abnormal returns and also the proportion of abnormal returns are positive, except the [-2;2] window for the absolute cumulative average abnormal return. However, also here, significances are only reported for the proportion of positive cumulative abnormal returns based on a sign test. The sign test indicates significances for the event windows [-1;0], [-1;1], [-2;2] and [-5;5].

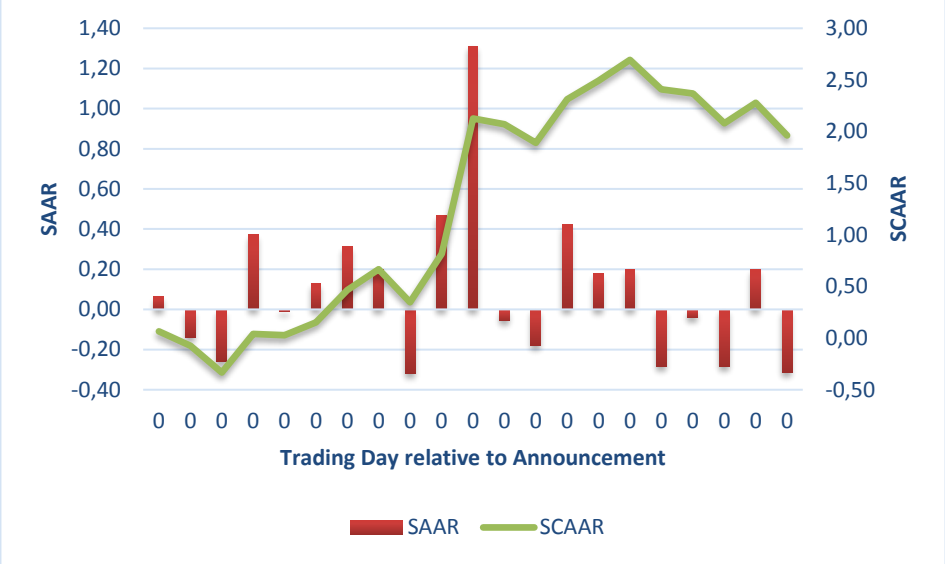

Figure 24: Event Period Daily and Cumulative Standardised Average Abnormal Spinoff Returns

Event Window	CAAR	SCAAR	Absolute CAAR	Proportion positive CARs
[-1;0]	1.92	1.25	52.03	68.18**
[-1;1]	2.78	0.99	15.71	72.73**
[0;1]	1.81	0.89	27.58	63.64*
[-2;2]	1.20	0.54	-12.44	68.18**
[-3;3]	1.88	0.69	39.43	63.64*
[-5;5]	3.67	0.78	84.06	86.18**
[-10;10]	2.45	0.41	115.02	59.09

CAAR and proportion of positive CAR in %; absolute CAAR in EUR 1,000,000.

N=22; *, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed Fisher's exact test.

Table 92: Spinoff CAARs in the Event Period

Although due to the small sample size, parametric significance tests cannot be applied, the mostly significantly positive proportion of cases with positive abnormal returns supports the hypothesis that corporate spinoffs are also net shareholder value-creating

corporate activities. The results for the D-A-CH region are thus in line with previous research, which without exception report positive average abnormal returns for spinoffs.

5.3 Multivariate Results

5.3.1 Multivariate Results – Relative Size, Financial Performance and Growth Perspectives

In order to validate the bivariate findings, the hypotheses are again tested including the variables in a multivariate regression model. Therefore, the author works with a basic model, which includes the seller related variables as well as the relative deal size, as this seems to be the variable with the most significant influence on abnormal returns. Hence, the basic model initially includes the relative size as categorical variable, the market-to-book ratio of the seller and the stock performance of the seller in the estimation period (as dummy variable), as well as the seller's return on assets, quick ratio, debt/equity ratio and the z''-score (Table 93).

As this initial model suffers from multicollinearity between the market-to-book ratio and the debt/equity ratio, the latter was removed from the model as there are still enough variables that account for the financial situation of the seller. As the multicollinearity is caused by a few outliers, these could have been removed alternatively. However, removing those cases would have caused the loss of valuable information. As in the bivariate analysis, the market-to-book ratio, which serves as a proxy for the growth perspectives of the seller, shows to be insignificant except in the [0] event window (Table 129, Appendix, p. 243). Thus, the author also removes the market-to-book value from the basic model. Although the debt-equity ratio could be reconsidered in the model, the author refuses to do so. Even though, the debt-equity ratio shows to be significantly negative, supporting the view that selloffs conducted from a position of strength are viewed favourably, the coefficient is economically highly insignificant.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.764**	0.571**	0.861***	0.731***
	(0.294)	(0.236)	(0.237)	(0.209)
LARGE	2.055***	1.597***	1.257**	1.143***
	(0.582)	(0.454)	0.514)	(0.429)
MTB	0.186	0.145	0.104	0.095
	(0.131)	(0.090)	(0.088)	(0.071)
STOCK	-0.683***	-0.548***	-0.467**	-0.436**
	(0.258)	(0.206)	(0.214)	(0.187)
ROA	0.039***	0.030***	0.018*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.102***	-0.065**	-0.017	-0.007
	(0.039)	(0.032)	(0.027)	(0.023)
DE	-0.078	-0.063	-0.048	-0.046
	(0.059)	(0.041)	(0.040)	(0.032)
ZSCORE	0.038	0.016	0.020	0.008
	(0.044)	(0.036)	(0.032)	(0.027)
Cons	0.026	0.046	0.037	0.054
	(0.247)	(0.193)	(0.195)	(0.165)
F-Statistic	5.62***	4.57***	10.68***	11.48***
R^2	0.281	0.256	0.181	0.182
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 93: Multiple Regression of SCAARs on Seller Related Variables and Relative Size

Hence, the basic model (Table 94) consists of the relative size of the deal as well as the stock performance of the seller in the estimation period, the seller's profitability (return on assets), liquidity (quick ratio) and the z''-score as a measure for the degree of financial distress.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.675**	0.503**	0.806***	0.677***
	(0.280)	(0.229)	(0.232)	(0.206)
LARGE	1.946***	1.519***	1.208**	1.102***
	(0.582)	(0.456)	(0.505)	(0.421)
STOCK	-0.681**	-0.544***	-0.462**	-0.429**
	(0.261)	(0.208)	(0.213)	(0.187)
ROA	0.040***	0.030***	0.018**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.089***	-0.037*	-0.029
	(0.028)	(0.023)	(0.020)	(0.018)
ZSCORE	0.072**	0.045*	0.044*	0.032
	(0.031)	(0.027)	(0.023)	(0.021)
Cons	0.297	0.244	0.165	0.164
	(0.214)	(0.172)	(0.175)	(0.150)
F-Statistic	6.17***	5.69***	16.28***	13.89***
R^2	0.266	0.243	0.174	0.173
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 94: Multiple Regression of SCAARs on Seller Related Variables and Relative Size (Basic Model)

As expected, the relative size of the deal still has a highly significantly positive effect on the abnormal returns when controlling for other variables. Moreover, the relative size is also the variable that explains most of the variation in the abnormal returns with an R^2 between 11.16% and 13.82% dependent on the event window. This supports the hypothesis that if divestitures are shareholder value-creating corporate activities, the degree of restructuring influences the shareholder value creation positively. The result is in line with the majority of previous divestiture research (cf. i.a. Hearth and Zaima, 1984; Servaes and Zenner, 1994; Lang et al., 1995; Borde et al., 1998; Hanson and Song, 2000; Mulherin and Boone, 2000; Clayton and Reisel, 2013 for the US; Afshar et al., 1992; Kaiser and Stouraitis, 1995; Lasfer et al., 1996; Wang, 2000; Alexandrou and Sudarsanam, 2001; Kaiser and Stouraitis, 2001; Clubb and Stouraitis, 2002 for Europe). For the D-A-CH region, only Stienemann (2003) reports a positive influence of the relative size on the abnormal returns; Löffler (2001) and Ostrowski (2007), by contrast, do not find any impact of this variable.

Also, the bivariate result regarding the stock performance as an indicator for the future prospects of the seller seems to be robust. A negative stock performance in the estimation period is related to significantly higher announcement returns compared to a positive stock performance. The reason for this finding may lie in the fact that in the case of an unfavourable outlook, the divestiture is seen as a game changer, which may lead to increased performance prospects.

The outcomes regarding the liquidity level, however, differ from the bivariate results as the coefficient for the quick ratio turns negative when including the variable in the multivariate model. A possible explanation for this effect may be related to the principal-agent-theory. If a seller's liquidity is already at a considerable level, the fear of emerging agency costs through investment decisions regarding the sale proceeds that are beneficial for the management rather than for the shareholders may result in lower abnormal returns.

The multivariate findings regarding the seller's current performance, i.e. the return on assets, and the threat of financial distress, i.e. the z''-score, are in line with the bivariate findings and indicate that generally, a strong financial constitution of the seller is favourable with respect to the announcement returns. The most reasonable rationale for this relationship is the strong negotiation position, which allows the seller to consider the different options very carefully without any pressure. The results are in line with the findings of Bartsch (2005) who also reports a positive influence of a strong financial situation of the seller. The other studies concerning the same economic region do not find any influence regarding their variables. The findings of Löffler (2001) are insignificant, as are the findings of Stienemann (2003) regarding financial distress of the seller. For the profitability of the seller, the results of Stienemann (2003) are ambiguous. Also, regarding US and European studies, the results in respect to the seller's profitability vary between the studies. A negative impact of financial distress is, however, only reported by Wang (2000), whereas the majority either finds a positive or insignificant influence.

5.3.2 Multivariate Results – Selloff Motive

5.3.2.1 Multivariate Results – Increase in Corporate Focus

Looking at the effect of an increase in the corporate industrial focus through the transaction, the multivariate results support the bivariate findings. Divesting an asset, which is unrelated to the seller's core business, shows to have a significantly positive influence in the [-1;0], [0;1] and [-1;1] event windows (Table 95). On the announcement day, the p-value of the coefficient in a right-tailed test slightly exceeds 10%.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.660**	0.480**	0.791***	0.654***
	(0.277)	(0.224)	(0.231)	(0.202)
LARGE	1.981***	1.574***	1.244**	0.155***
	(0.579)	(0.447)	(0.508)	(0.420)
STOCK	-0.691***	-0.559***	-0.471**	-0.443**
	(0.262)	(0.207)	(0.214)	(0.187)
ROA	0.039**	0.029**	0.018*	0.015*
	(0.015)	(0.012)	(0.009)	(0.008)
QUICK	-0.135***	-0.098***	-0.043**	-0.037*
	(0.029)	(0.024)	(0.021)	(0.019)
ZSCORE	0.077**	0.053*	0.049**	0.039*
	(0.032)	(0.027)	(0.024)	(0.022)
IFOCUS_S	0.289	0.456**	0.295	0.448***
	(0.231)	(0.184)	(0.195)	(0.171)
Cons	0.156	0.021	0.020	-0.055
	(0.200)	(0.164)	(0.181)	(0.147)
F-Statistic	5.32***	5.29***	14.93***	13.33***
R^2	0.271	0.261	0.181	0.196
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 95: Multiple Regression of SCAARs on an Increase in Focus Incl. Controls

Hence, the robust finding of a positive effect of selling unrelated assets proves the hypothesis that due to such transactions, harmful unrelated diversification can be mitigated, resources can be moved to higher valued uses and agency costs can be reduced. In this way, corporate divestitures create value for the seller's shareholders.

This result supports the theories for value creation of Kirchmaier (2003), Sewing (2010) and Fischer et al. (2013) and is in line with the majority of previous research (cf. i.a. Afshar et al., 1992; John and Ofek, 1995; Kaiser and Stouraitis, 1995; Datta and Iskandar-Datta, 1996; Daley et al., 1997; Desai and Jain, 1999; Bergh et al., 2008; Coakley et al., 2008). Regarding the D-A-CH region only, the results support the findings of Löffler (2001) and Ostrowski (2007) but are in contrast to the finding of no influence of Eichinger (2001) and Stienemann (2003) or to Bartsch's (2005) finding of a negative influence.

Also, the results regarding the degree of diversification seem to be robust when controlling for the relative deal size and the seller's financial characteristics. Neither the degree of diversification itself, i.e. the number of two-digit SIC codes, nor the interaction term is significant (Table 96). Moreover, the coefficient that accounts for an increase in focus also becomes insignificant, except the [-1;1] event window in a right-tailed test. This, as in the bivariate results, may, however, be caused by multicollinearity between this variable and the interaction terms, which leads to increased standard errors and, hence, insignificant coefficients. Thus, the results neither reveal an influence of the degree of diversification itself, nor of the interaction term, but have to be regarded with caution, as the insignificant results may be misleading.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.635**	0.468**	0.783***	0.651***
	(0.275)	(0.224)	(0.234)	(0.207)
LARGE	1.930***	1.549***	1.242**	1.162***
	(0.562)	(0.438)	(0.501)	(0.415)
STOCK	-0.671***	-0.549***	-0.467**	-0.443**
	(0.255)	(0.202)	(0.212)	(0.185)
ROA	0.039**	0.029**	0.018*	0.015**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.135***	-0.098***	-0.043**	-0.037*
	(0.029)	(0.024)	(0.021)	(0.019)
ZSCORE	0.078**	0.054*	0.049**	0.039*
	(0.032)	(0.027)	(0.024)	(0.022)
IFOCUS_S	0.410	0.529	0.564	0.659
	(0.651)	(0.503)	(0.513)	(0.454)
NO2	-0.076	-0.035	0.057	0.062
	(0.102)	(0.081)	(0.088)	(0.072)
IFOCUS_S*NO2	-0.014	-0.011	-0.092	-0.077
	(0.169)	(0.133)	(0.140)	(0.121)
Cons	0.348	0.109	-0.129	-0.217
	(0.316)	(0.255)	(0.290)	(0.243)
F-Statistic	4.18***	4.18***	12.69***	11.12***
R^2	0.274	0.262	0.183	0.197
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 96: Multiple Regression of SCAARs on an Increase in Focus, the Degree of Diversification and an Interaction Term of Both Variables Incl. Controls

The positive influence of a major restructuring or strategic shift in the corporate focus through the transaction, which was observed in the bivariate analysis, does not prove to be robust including controls in the regression analysis. Although constantly positive, the coefficients are insignificantly different from zero in all four tested event windows (Table 97).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.664**	0.493**	0.788***	0.659***
	(0.285)	(0.234)	(0.237)	(0.210)
LARGE	1.909***	1.482***	1.143**	1.039**
	(0.568)	(0.444)	(0.484)	(0.398)
STOCK	-0.680**	-0.543**	-0.459**	-0.426**
	(0.261)	(0.208)	(0.213)	(0.187)
ROA	0.040***	0.030***	0.018*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.089***	-0.037*	-0.028
	(0.028)	(0.024)	(0.020)	(0.018)
ZSCORE	0.073**	0.046*	0.046*	0.033
	(0.031)	(0.027)	(0.023)	(0.022)
MAJ_RES	0.194	0.195	0.340	0.326
	(0.408)	(0.323)	(0.345)	(0.307)
Cons	0.276	0.223	0.128	0.129
	(0.215)	(0.173)	(0.176)	(0.151)
F-Statistic	5.25***	4.81***	12.93***	11.00***
R^2	0.267	0.244	0.178	0.179
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 97: Multiple Regression of SCAARs on a Major Restructuring Incl. Controls

The divestiture of a foreign asset, i.e. an increase in the geographic corporate focus, still shows a significant negative influence when controlling for the seller's financial constitution and the relative size of the deal. Although the coefficients are not as highly significant as in the bivariate model, the coefficients are significantly negative at the 5% level in a left-tailed test for all event windows tested (Table 98). This supports the argument that an increase in the geographic focus leads to decreasing economies of scale, a weakened competitive position or signals a prior mistake which influences the shareholder value creation negatively. The finding of a negative influence of an increase in the geographic focus is in line with the results of Kaiser and Stouraitis (1995) for European divestitures and Eichinger (2001) for German divestitures but is in contrast to the findings of Stienemann (2003).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.581**	0.420**	0.716***	0.590***
	(0.270)	(0.224)	(0.230)	(0.208)
LARGE	1.860***	1.443***	1.126**	1.022**
	(0.562)	(0.441)	(0.497)	(0.414)
STOCK	-0.688***	-0.550***	-0.468**	-0.435**
	(0.261)	(0.208)	(0.214)	(0.187)
ROA	0.039***	0.030***	0.018*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.128***	-0.088***	-0.036*	-0.027
	(0.027)	(0.022)	(0.019)	(0.018)
ZSCORE	0.073**	0.047*	0.045**	0.033
	(0.030)	(0.026)	(0.023)	(0.021)
FOREIGN	-0.324*	-0.286*	-0.310*	-0.299*
	(0.184)	(0.155)	(0.177)	(0.160)
Cons	0.481*	0.407**	0.341	0.334*
	(0.256)	(0.203)	(0.209)	(0.184)
F-Statistic	5.40***	5.00***	15.28***	13.13***
R^2	0.272	0.250	0.182	0.183
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 98: Multiple Regression of SCAARs on Origin of Divested Asset: Foreign vs Domestic Incl. Controls

The results regarding the second variable measuring an increase in the geographic focus, i.e. if the divested asset is a non-European asset, become insignificant when included in a multivariate model (Table 130, Appendix, p. 244).

5.3.2.2 Multivariate Results – Financial Distress

When omitting the z''-score from the basic model and instead including a binary indicator for financial distress, the results differ from the bivariate findings. Whereas the subjective measure, i.e. the announcement of financial distress as the motive for the divestiture, indicates a significantly negative impact on the abnormal returns (Table 99), the objective measure, i.e. the z''-score as binary variable, is insignificant for all event windows (Table 131, Appendix, p. 245). However, as the generic z''-score as continuous variable, which is included in the basic model, shows a positive impact on

abnormal returns, it seems that financial distress of the seller is harmful for the shareholder value creation in divestiture transactions. This supports the 'fire sale theory' as described previously, which expects higher abnormal returns for healthy firms, due to a strong negotiation position. The result is in contrast to the majority of previous research. Only Wang (2000), for UK foreign divestitures, comes to the same results. Afshar et al. (1992), Lasfer et al. (1996), Clubb and Stouraitis (2002) and Gadad and Thomas (2005) for Europe, and Borde et al. (1998), Kiymaz (2003), as well as Clayton and Reisel (2013) for the US find a positive impact of financial distress on shareholder wealth creation. For Germany, Stienemann (2003) reports ambiguous results.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.560**	0.435*	0.715***	0.613***
	(0.274)	(0.223)	(0.229)	(0.201)
LARGE	1.915***	1.519***	1.226**	1.134***
	(0.592)	(0.465)	(0.505)	(0.426)
STOCK	-0.261**	-0.465**	-0.389*	-0.374**
	(0.252)	(0.200)	(0.205)	(0.178)
ROA	0.047***	0.035***	0.023***	0.020***
	(0.014)	(0.010)	(0.008)	(0.007)
QUICK	-0.053***	-0.042***	0.010	0.004
	(0.017)	(0.013)	(0.010)	(0.010)
DISTRESS_A	-1.899***	-1.094***	-1.307***	-0.864**
	(0.458)	(0.393)	(0.360)	(0.421)
Cons	0.400*	0.306*	0.236	0.212
	(0.211)	(0.169)	(0.173)	(0.150)
F-Statistic	5.91***	5.17***	19.65***	16.24***
R^2	0.262	0.244	0.174	0.176
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 99: Multiple Regression of SCAARs on Seller Financial Condition: Distressed vs Healthy (Announced) Incl. Controls

5.3.2.3 Multivariate Results – Regulatory Issues

The effect of an involuntary motive for the selloff, i.e. when the selloff is either directly forced by antitrust authorities or indirectly by changes in the legislation or regulatory issues, disappears when controlling for other characteristics. Whereas the bivariate results indicated significantly lower abnormal returns for forced divestitures, the multiple regression only shows a significantly negative effect in the [0;1] event window at the 10% alpha level in a left-tailed test (Table 100). Hence, a negative effect, as expected for such transactions, cannot be reliably claimed. This differs from the results of Boudreaux (1975), Montgomery et al. (1984) and Meschi (2005), who find lower returns for involuntary divestitures, although the significance of their results is unknown. Stienemann (2003) comes to the same result for Germany and finds no difference in the abnormal returns between voluntary and involuntary selloffs.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.662**	0.493**	0.783***	0.657***
	(0.284)	(0.232)	(0.235)	(0.209)
LARGE	1.933***	1.509***	1.185**	1.082**
	(0.584)	(0.457)	(0.507)	(0.423)
STOCK	-0.684***	-0.547***	-0.467**	-0.434**
	(0.262)	(0.209)	(0.214)	(0.188)
ROA	0.040***	0.030***	0.019**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.088***	-0.037*	-0.028
	(0.028)	(0.023)	(0.020)	(0.018)
ZSCORE	0.072**	0.045*	0.043*	0.031
	(0.031)	(0.027)	(0.023)	(0.021)
INVOLUNT	-0.171	-0.135	-0.305	-0.261
	(0.226)	(0.236)	(0.234)	(0.218)
Cons	0.313	0.256	0.192	0.187
	(0.221)	(0.178)	(0.181)	(0.155)
F-Statistic	5.37***	4.92***	14.92***	12.66***
R^2	0.266	0.243	0.175	0.175
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 100: Multiple Regression of SCAARs on the Voluntariness of the Deal Incl. Controls

5.3.3 Multivariate Results – Use of Proceeds

The way in which the proceeds of the asset sale are used still has a significant influence on abnormal returns when adding controls to the regression model. A joint test on the coefficients of the proceeds variable is significant for all four event windows. The announcement to pay out the proceeds to the shareholders in particular leads to significantly higher abnormal returns. Referring to a left-tailed test, the effect of the decision to retain or reinvest the proceeds is negative in the [0;1] and [-1;1] event windows compared to the case where the use of proceeds is unknown and significantly lower than the reduce debt sample in the [-1;1] event window (Table 101). The coefficient for using the proceeds to reduce debt is significantly negative in comparison to the cases where the intended use of proceeds is unknown in the [0] event window only, again referring to a left-tailed test.

The results correspond to the author's expectations that paying out the proceeds to the shareholders should be related to the highest abnormal returns and that retaining or reinvesting the proceeds is considered to be the least favourable option from a shareholder's perspective. This is in line with the findings of Lang et al. (1995), Kaiser and Stouraitis (2001) and Bates (2005) who report a positive impact of the intention to pay out the proceeds to the seller's shareholders, and also to the results of Lang et al. (1995) and Bates (2005) who additionally report an underperformance of firms retaining or reinvesting the proceeds versus firms using the proceeds to repay debt.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.747**	0.581**	0.947***	0.814***
	(0.336)	(0.272)	(0.270)	(0.243)
LARGE	2.080***	1.605***	1.418**	1.266**
	(0.604)	(0.491)	(0.565)	(0.485)
STOCK	-0.621**	-0.503**	-0.441**	-0.413**
	(0.259)	(0.207)	(0.217)	(0.190)
ROA	0.041***	0.032***	0.019*	0.018**
	(0.015)	(0.011)	(0.010)	(0.008)
QUICK	-0.150***	-0.105***	-0.043**	-0.034*
	(0.028)	(0.023)	(0.019)	(0.018)
ZSCORE	0.063**	0.040	0.041*	0.030
	(0.032)	(0.028)	(0.024)	(0.023)
PAYOUT	2.990***	2.163***	0.803	0.699
	(1.038)	(0.619)	(0.586)	(0.634)
DEBT	-0.434	-0.163	-0.283	-0.114
	(0.307)	(0.266)	(0.278)	(0.246)
REINVEST	-0.213	-0.421	-0.552	-0.614**
	(0.472)	(0.358)	(0.372)	(0.306)
Cons	0.371	0.283	0.222	0.200
	(0.228)	(0.185)	(0.189)	(0.164)
F-Statistic	7.13***	11.20***	17.10***	9.97***
R^2	0.289	0.264	0.188	0.192
Observations	272	272	272	272

SMALL deals omitted

UNKNOWN use of proceeds omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 101: Multiple Regression of SCAARs on the Use of Proceeds Incl. Controls

As before, the interaction terms mostly show no effect on abnormal returns. Only the coefficient for the debt reduction term based on the financial condition of the sellers shows to be significantly positive in the [-1;0] event window in a right-tailed test (Table 102). This could be interpreted as the higher the seller's probability for financial distress, the lower the abnormal returns if the proceeds are used to pay down debt. Hence, the finding is in contrast to Lang et al. (1995) who report higher abnormal returns for distressed firms using the proceeds to reduce debt, but in line with Brown et al. (1995) who find a negative effect for distressed firms if the proceeds are used to repay debt.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.669*	0.519*	0.910***	0.778***
	(0.342)	(0.277)	(0.272)	(0.247)
LARGE	2.107***	1.628***	1.412**	1.264**
	(0.603)	(0.488)	(0.578)	(0.496
STOCK	-0.654**	-0.541**	-0.455**	-0.437**
	(0.262)	(0.209)	(0.220)	(0.193)
ROA	0.041***	0.032***	0.019*	0.018**
	(0.015)	(0.011)	(0.010)	(0.008)
QUICK	-0.165***	-0.109***	-0.050**	-0.035
	(0.032)	(0.027)	(0.024)	(0.022)
ZSCORE	0.076**	0.043	0.047*	0.030
	(0.034)	(0.030)	(0.027)	(0.025)
PAYOUT	3.180***	2.244***	0.910	0.742
	(1.069)	(0.610)	(0.613)	(0.671)
DEBT	-0.750*	-0.524	-0.391	-0.314
	(0.449)	(0.349)	(0.429)	(0.337)
DEBT*ZSCORE	0.165	0.184	0.057	0.101
	(0.174)	(0.113)	(0.140)	(0.093)
REINVEST	-0.515	-0.503	-0.647	-0.643*
	(0.528)	(0.402)	(0.405)	(0.332)
MTB	-0.041	-0.012	-0.034	-0.014
	(0.070)	(0.059)	(0.063)	(0.057)
REINVEST*MTB	0.069	0.027	0.041	0.016
	(0.075)	(0.062)	(0.067)	(0.059)
Cons	0.470*	0.343*	0.302	0.256
	(0.250)	(0.206)	(0.213)	(0.191)
F-Statistic	5.39***	9.57***	17.37***	8.02***
R^2	0.299	0.273	0.189	0.195
Observations	272	272	272	272

SMALL deals omitted

UNKNOWN use of proceeds omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 102: Multiple Regression of SCAARs on the Use of Proceeds and Interaction Terms Incl. Controls

The finding corresponds to the argumentation that in the case of serious financial distress, using the proceeds to repay debt could be perceived as a wealth transfer from shareholders to debtholders and thus leads to a negative reaction of the stock market. Regarding the interaction term for the option of retaining or reinvesting the proceeds and the growth perspectives of the sellers, multicollinearity prevents eventual

significant findings. Hence, the interaction terms seem to have no explanatory power regarding the abnormal returns.

5.3.4 Multivariate Results – Transparency

The multivariate results regarding the transparency variables support the bivariate findings. The only observed significances are for the announcement of the transaction price in the [0;1] event window (positive) in a right-tailed test (Table 103), the announcement of the deal purpose (negative) in the [0] event window (Table 132, Appendix, p. 246), and the use of proceeds in the [0;1] and [-1;1] event windows (negative) in a left-tailed test (Table 133, Appendix, p. 247). Announcing a possible book effect (Table 134, Appendix, p. 248) or the form of consideration (Table 135, Appendix, p. 249) has no significant effect on the abnormal returns. Hence, as significant effects are quite exceptional and, furthermore, even the signs of the coefficients change between the different event windows, an influence of the transparency of the deal cannot be claimed. The finding somewhat contrasts with previous research since the majority of researchers report a positive influence of transparency on abnormal returns (cf. Klein, 1986; Sicherman and Pettway, 1992; Afshar et al., 1992; Sentis, 1996; Eichinger, 2001; Ostrowski, 2007). However, the result is in line with Stienemann (2003) and Bartsch (2005) for Germany and also Kaiser and Stouraitis (1995) for Europe.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.630**	0.542**	0.787***	0.718***
	(0.284)	(0.233)	(0.237)	(0.210)
LARGE	1.924***	1.526***	1.218**	1.128***
	(0.586)	(0.458)	(0.500)	(0.418)
STOCK	-0.677**	-0.529**	-0.488**	-0.440**
	(0.267)	(0.213)	(0.217)	(0.191)
ROA	0.040***	0.031***	0.018*	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.127***	-0.091***	-0.036*	-0.030
	(0.027)	(0.024)	(0.020)	(0.018)
ZSCORE	0.070**	0.048*	0.043*	0.034
	(0.031)	(0.027)	(0.023)	(0.022)
UNKNOWN	-0.226	-0.148	0.412	0.344
	(0.335)	(0.306)	(0.293)	(0.277)
PRICE_A	0.061	-0.241	0.304	0.015
	(0.256)	(0.237)	(0.234)	(0.223)
Cons	0.293	0.415*	-0.083	0.104
	(0.256)	(0.229)	(0.223)	(0.207)
F-Statistic	5.06***	5.07***	12.39***	10.73***
R^2	0.268	0.245	0.178	0.178
Observations	272	272	272	272

SMALL deals omitted

Price NOT_ANNOUNCED omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 103: Multiple Regression of SCAARs on the Announcement of the Transaction Price Incl. Controls

5.3.5 Multivariate Results – Participation in the Buyer's Value Creation Potential

Although an expected positive effect in the case of a strategic fit between the asset sold and the buyer, i.e. if the asset sold is operating in the same four-digit industry as the buyer, can be observed in all event windows, the coefficient is only significantly positive in the [-1;0] event window in a right-tailed test (Table 104).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.682**	0.515**	0.812***	0.687***
	(0.285)	(0.230)	(0.236)	(0.207)
LARGE	1.966***	1.550***	1.224**	1.129***
	(0.585)	(0.455)	(0.514)	(0.426)
STOCK	-0.669***	-0.524**	-0.451**	-0.411**
	(0.252)	(0.201)	(0.206)	(0.180)
ROA	0.040***	0.030***	0.018*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.088***	-0.037*	-0.028
	(0.027)	(0.023)	(0.019)	(0.018)
ZSCORE	0.072**	0.046*	0.044*	0.032
	(0.031)	(0.026)	(0.023)	(0.021)
FIT	0.197	0.314	0.158	0.273
	(0.324)	(0.242)	(0.265)	(0.229)
Cons	0.239	0.151	0.118	0.083
	(0.205)	(0.170)	(0.175)	(0.151)
F-Statistic	5.98***	5.13***	14.70***	11.63***
R^2	0.268	0.249	0.175	0.180
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 104: Multiple Regression of SCAARs on the Strategic Fit Between Target and Buyer Incl. Controls

Combining an increase in the corporate industrial focus and the relatedness of buyer and seller in one categorical variable, a certain influence on the abnormal returns can be observed (Table 105). A joint test on the coefficients of this variable shows significant results for the [-1;0] and [-1;1] event windows. Divestitures increasing the corporate industrial focus of the seller to a buyer with a strategic fit to the assets sold outperform selloffs of related assets to buyers that are not related to the disposed asset. Also, sellers that increase their corporate industrial focus, but sell the assets to a buyer that is not operating in the industry as the asset disposed, outperform non-focus-increasing sellers. The coefficient is, however, smaller. Hence, a certain influence of a strategic fit between asset disposed and buyer cannot be rejected, which supports the findings of John and Ofek (1995) and Clubb and Stouraitis (2002). However, the results have to be considered with caution as they are only significant in some event windows.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.621**	0.477**	0.754***	0.643***
	(0.266)	(0.219)	(0.222)	(0.198)
LARGE	1.950***	1.593***	1.213**	1.164***
	(0.596)	(0.449)	(0.516)	(0.421)
STOCK	-0.668***	-0.534***	-0.452**	-0.420**
	(0.248)	(0.197)	(0.202)	(0.177)
ROA	0.040***	0.029**	0.018*	0.015*
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.138***	-0.098***	-0.046**	-0.038*
	(0.030)	(0.024)	(0.022)	(0.020)
ZSCORE	0.082**	0.055**	0.053**	0.042*
	(0.034)	(0.028)	(0.026)	(0.023)
FOCUS_NOFIT	0.076	0.404**	0.095	0.365**
	(0.228)	(0.193)	(0.191)	(0.171)
FOCUS_FIT	0.836	0.939**	0.446	0.923**
	(0.581)	(0.445)	(0.503)	(0.442)
NOFOCUS_FIT	-0.209	0.213	-0.217	0.118
	(0.371)	(0.271)	(0.280)	(0.226)
Cons	0.193	-0.060	0.063	-0.109
	(0.201)	(0.177)	(0.203)	(0.169)
F-Statistic	4.58***	4.34***	12.57***	10.26***
R^2	0.282	0.271	0.196	0.208
Observations	272	272	272	272

SMALL deals omitted

NOFOCUS_NOFIT

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 105: Multiple Regression of SCAARs on Combination of Strategic Fit Between Target and Buyer and Increase in Focus Incl. Controls

5.3.6 Multivariate Results – Type of Buyer

Distinguishing between the different types of buyers, i.e. strategic buyers, financial buyers or own management, only the event windows [0] and [-1;0] show significant differences (Table 106). Here, selloffs to financial investors underperform compared to those to strategic buyers which is in line with the author's expectations. The significant outperformance of management buyouts towards selloffs to strategic investors disappears in the multivariate model, whereas the outperformance compared to financial investors remains. Whilst the finding regarding financial investors versus strategic

buyers can be explained by the argumentation presented in chapter three, the findings regarding management buyouts are unexpected and no reasonable rationale can be provided. The findings are also interesting when relating them to previous research. Whereas the result contrasts with to John and Ofek (1995), who find support for their hypothesis and report higher abnormal returns for financial investors, Ostrowski (2007) cannot support that for the German market. Stienemann (2003) and Bartsch (2005) do not find that sellers receive higher abnormal returns in the case of strategic buyers. Regarding management buyouts, Hite and Vetsuypens (1989), as well as Stouraitis (2003), find neither superior nor inferior performance.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.690**	0.528**	0.770***	0.659***
	(0.294)	(0.240)	(0.237)	(0.212)
LARGE	1.961***	1.540***	1.231**	1.128**
	(0.607)	(0.464)	(0.543)	(0.452)
STOCK	-0.678**	-0.547***	-0.437**	-0.413**
	(0.260)	(0.208)	(0.213)	(0.188)
ROA	0.040***	0.030***	0.019**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.120***	-0.081***	-0.035*	-0.026
	(0.027)	(0.023)	(0.020)	(0.018)
ZSCORE	0.064**	0.039	0.043*	0.029
	(0.029)	(0.025)	(0.023)	(0.201)
MBO	0.712	0.497	0.046	0.035
	(0.736)	(0.582)	(0.491)	(0.427)
PE	-0.458*	-0.366*	-0.168	-0.171
	(0.259)	(0.215)	(0.211)	(0.192)
Cons	0.406*	0.337*	0.185	0.194
	(0.239)	(0.191)	(0.202)	(0.173)
F-Statistic	5.67***	5.16***	13.78***	11.59***
R^2	0.279	0.255	0.176	0.176
Observations	271	271	271	271

SMALL deals omitted

STRATEGIC buyer omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 106: Multiple Regression of SCAARs on Type of Buyer Incl. Controls

5.3.7 Multivariate Results – Form of Payment

Regarding the form of payment, the multiple regression confirms the bivariate results that no relationship between the form of payment and the magnitude of the abnormal returns can be observed (Table 107). The finding of no influence is in line with the findings of Kaiser and Stouraitis (1995), Slovin et al. (2005) and Brauer and Wiersema (2012), and in contrast to Stienemann (2003), who reports higher abnormal returns for cash deals and Hege et al. (2009), who report higher abnormal returns for share deals. Due to the structure of the data with a large proportion, where the consideration is unknown and otherwise majorly cash transactions, the results may be biased and should be regarded with caution. However, the variable PAYM, which distinguishes between the forms CASH, OTHER and UNKNOWN payments, also shows an insignificant effect (Table 136, Appendix, p. 250). Hence, an influence of the type of consideration cannot be proved.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.673**	0.506**	0.807***	0.681***
	(0.283)	(0.231)	0.234	(0.206)
LARGE	1.943***	1.525***	1.211**	1.111***
	(0.582)	(0.456)	(0.508)	(0.424)
STOCK	-0.681**	-0.545***	-0.462**	-0.430**
	(0.262)	(0.209)	(0.214)	(0.188)
ROA	0.040***	0.030***	0.018*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.089***	-0.037*	-0.028
	(0.028)	(0.023)	(0.020)	(0.019)
ZSCORE	0.072**	0.046*	0.044*	0.032
	(0.031)	(0.027)	(0.023)	(0.022)
CASH	0.026	-0.044	-0.020	-0.066
	(0.220)	(0.178)	(0.191)	(0.167)
Cons	0.287	0.263	0.173	0.191
	(0.242)	(0.190)	(0.200)	(0.168)
F-Statistic	5.45***	4.89***	14.22***	11.99***
R^2	0.266	0.243	0.174	0.174
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 107: Multiple Regression of SCAARs on the Form of Consideration Incl. Controls

5.3.8 Multivariate Results – Further Findings

Likewise, the timing of the divestiture in respect to the current economic environment also shows to have no influence on the abnormal returns (Table 137, Appendix, p. 251). This finding is in contrast to the assumption of Shleifer and Vishny (1992) and also the results of Alexandrou and Sudarsanam (2001). Whereas Alexandrou and Sudarsanam (2001) find higher abnormal returns for selloffs conducted during recessions, Shleifer and Vishny (1992) theoretically predict lower abnormal returns for divestitures conducted during an industry- or economy-wide recession as assets would be highly illiquid in these times since the buyers with the highest value creation potential are likely to be in financial trouble themselves. The result additionally reveals that both, the bursting of the dot-com bubble as well as the financial crisis as consequence of the bankruptcy of Lehman Brothers did not have any influence on divestiture performance.

Looking at the type of asset, a joint test on the coefficients of this variable reveals a significant influence except for the [0;1] event window. Rights and also plants in particular are related to lower abnormal returns, whereas business units create the highest abnormal returns (Table 108).

Also, changes in the systematic risk through the divestiture, measured by significant changes in the seller's beta before and after the announcement, do not influence abnormal returns (Table 138, Appendix, p. 252).

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.626**	0.457**	0.769***	0.637***
	(0.286)	(0.233)	(0.240)	(0.212)
LARGE	1.949***	1.492***	1.182**	1.057**
	(0.585)	(0.456)	(0.510)	(0.421)
STOCK	-0.656**	-0.537**	-0.460**	-0.435**
	(0.258)	(0.208)	(0.214)	(0.190)
ROA	0.041***	0.031***	0.018*	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.124***	-0.086***	-0.036*	-0.028
	(0.028)	(0.024)	(0.020)	(0.019)
ZSCORE	0.066**	0.043	0.043*	0.032
	(0.031)	(0.027)	(0.023)	(0.022)
PLANT	-0.596	-0.514	-0.281	-0.305
	(0.376)	(0.322)	(0.389)	(0.344)
PROPERTY	-0.335	-0.111	-0.102	0.018
	(0.404)	(0.308)	(0.291)	(0.250)
RIGHTS	-0.696*	-0.634**	-0.588**	-0.596***
	(0.403)	(0.259)	(0.253)	(0.213)
SUBSIDIARY	-0.338	-0.167	-0.081	-0.009
	(0.281)	(0.225)	(0.223)	(0.197)
UNKNOWN	-0.698***	-0.827**	-0.566	-0.734
	(0.230)	(0.344)	(0.400)	(0.612)
Cons	0.564*	0.411*	0.268	0.231
	(0.291)	(0.232)	(0.231)	(0.196)
F-Statistic	6.41***	4.15***	9.60***	8.65***
R^2	0.275	0.253	0.179	0.183
Observations	272	272	272	272

SMALL deals omitted

BU omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 108: Multiple Regression of SCAARs on the Type of Asset Sold Incl. Controls

Indirect selloffs, i.e. if the selloff is conducted by a subsidiary and not by the ultimate parent itself, are related to significantly higher abnormal returns in the [0;1] and [-1;1] event windows in a right-tailed test. The p-values in the [0] and [-1;0] event windows slightly exceed 10% (Table 109). This finding may be related to the corporate focus hypothesis, i.e. through divestitures of assets that are only indirectly related to the ultimate parent, complexity can be reduced.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.746***	0.563**	0.886***	0.749***
	(0.283)	(0.235)	(0.238)	(0.217)
LARGE	2.007***	1.570***	1.276**	1.163***
	(0.587)	(0.460)	(0.509)	(0.426)
STOCK	-0.678**	-0.542***	-0.458**	-0.426**
	(0.260)	(0.207)	(0.212)	(0.186)
ROA	0.040***	0.030***	0.018**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.132***	-0.091***	-0.040**	-0.031*
	(0.030)	(0.024)	(0.020)	(0.019)
ZSCORE	0.076**	0.048*	0.048**	0.035
	(0.032)	(0.027)	(0.024)	(0.022)
DIRECT	-0.300	-0.251	-0.334	-0.305
	(0.242)	(0.202)	(0.213)	(0.206)
Cons	0.478*	0.395*	0.365	0.347
	(0.281)	(0.229)	(0.230)	(0.215)
F-Statistic	5.52***	4.95***	13.71***	11.74***
R^2	0.270	0.247	0.181	0.182
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses.

Table 109: Multiple Regression of SCAARs on Seller/Target Degree of Relationship Incl. Controls

Finally, between Germany and Switzerland, who represent the majority of the sample, no differences regarding the announcement effects can be detected (Table 110). Austrian divestitures alone seem to underperform both German and Swiss divestitures, but due to the small number of cases that represent the Austrian sample, the finding should be regarded with extreme caution.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.691**	0.498**	0.809***	0.666***
	(0.277)	(0.228)	(0.232)	(0.210)
LARGE	1.930***	1.461***	1.194**	1.053**
	(0.579)	(0.456)	(0.507)	(0.424)
STOCK	-0.690**	-0.576***	-0.469**	-0.455**
	(0.269)	(0.213)	(0.219)	(0.190)
ROA	0.041***	0.031***	0.019**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.130***	-0.094***	-0.038*	-0.033*
	(0.030)	(0.025)	(0.021)	(0.020)
ZSCORE	0.073**	0.050*	0.045*	0.036
	(0.033)	(0.028)	(0.024)	(0.022)
AUSTRIA	-1.615***	-0.797***	-0.569	-0.183
	(0.453)	(0.233)	(0.450)	(0.138)
SWITZERLAND	-0.008	-0.152	-0.030	-0.142
	(0.247)	(0.197)	(0.212)	(0.190)
Cons	0.312	0.307	0.180	0.218
	(0.230)	(0.186)	(0.186)	(0.161)
F-Statistic	5.60***	4.51***	12.65***	10.92***
R^2	0.270	0.246	0.175	0.175
Observations	272	272	272	272

SMALL deals omitted

GERMANY omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 110: Multiple Regression of SCAARs on Seller Nation Incl. Controls

5.4 Summary of Research Results

The following table (Table 111) summarises the findings of the thesis. Despite the overall effect, which is significantly positive in the cross-section, '+' indicates a significantly positive effect on the abnormal returns, '-' indicates a significantly negative effect and '×' indicates an insignificant or ambiguous influence on the abnormal returns. A '✓' indicates a significant effect, which cannot be expressed in '+' or '–' due to the nature of the variable.

INVESTIGATION OBJECT	HYPOTHESIS	EXPECTED INFLUENCE	RESULT
Overall effect	1	+	+
Increase in industrial focus	2	+	+
Degree of diversification of focus increasing divestitures	3	+	×
Major restructuring/strategic shift	4	+	×
Increase in geographic focus	5	×	-
Financial distress	6	-	-
Involuntary divestiture	7	-	×
Use of proceeds	8	✓	✓
Using the proceeds to reduce debt based on the seller's financial condition	9/10	✓	×
Reinvesting the proceeds based on growth opportunities	11	✓	×
Transparency	12	+	×
Strategic fit	13	+	×
Combination of increase in industrial focus and strategic fit	14	✓	✓
Type of buyer	15	✓	✓
Form of payment	16	✓	×
Relative size	17	+	+
Growth opportunities	18	+	×
Performance prospects	19	+	-
Profitability	20	+	+
Liquidity	21	+	-
Leverage	22	-	-
Probability of bankruptcy	23	✓	×
Economic environment	–	✓	×
Type of asset	–	✓	✓
Systematic risk of the seller	–	✓	×
Degree of relationship	–	✓	✓
Nationality of the seller	–	×	✓

Table 111: Summary of Findings

Inferences and conclusions relating to the research results presented in this chapter will be discussed within chapter 6.

6 Conclusions

6.1 Summary of Research

The aim of the research was to analyse whether corporate divestitures in Austria, Germany and Switzerland create value for the divestor's shareholders, i.e. if corporate divestitures are viable strategic options for managers of publicly traded companies. Furthermore, the aim was to identify and assess which factors influence shareholder value creation in corporate divestiture transactions in a positive or negative way. Those factors included not only characteristics related to the deal itself, but also characteristics related to the parties involved in the transactions. Through understanding the sources of shareholder value creation, this research is intended to help unlock shareholder value potential that is currently lost.

The research is part of the field of capital market studies. Hence, the performance of corporate divestitures, i.e. the shareholder value creation, is evaluated based on changes in the market capitalisation of the divestor immediately at the announcement of the transaction using event study methodology. In contrast to the German speaking market, where only a small number of studies exist, which often suffer from small samples, there has been substantial research undertaken on this topic for the US and also the UK markets. The results, which are described in an exhaustive literature review, show that in these markets corporate divestitures are shareholder value-creating corporate activities. The average abnormal returns reach from 0.20% to 3.55% in selloff transactions and from 1.32% to 5.56% in spinoff transactions, which shows a slight outperformance of spinoffs compared to selloffs. Moreover, US transactions seem to yield higher abnormal returns than UK or continental European transactions. Regarding factors influencing the magnitude of shareholder value creation, previous research shows that the disposal of assets unrelated to the divestor's core business in particular, as well as the disposed assets' size in relation to the size of the divestor, influence the abnormal returns positively. Financial distress and the disclosure of the transaction details are related to positive announcement effects. Moreover, significant influences on the magnitude of the abnormal returns are often reported for the intended use of proceeds and agency variables. Regarding other characteristics such as the divestor's operating performance, the empirical evidence is ambiguous.

In order to answer the research questions, a unique sample of corporate selloffs and spinoffs conducted between 2000 and 2014 was drawn from the SDC Platinum database. After some adjustments related to the research methodology, the final sample consisted of 290 selloff and 22 spinoff cases conducted by publicly traded companies from Austria, Germany and Switzerland. To assess the performance of the individual divestiture cases, the crucial point was the isolation of the pure effect of the divestiture from effects unrelated to the divestiture itself. The aforementioned event study methodology, which constitutes the central research element, provides the solution for this issue. The event study methodology is based on the assumption of information efficient capital markets in the semi-strong form, i.e. stock prices adjust immediately to new information. This allows assessing the shareholder value creation of divestiture transactions by examining the changes in the stock price of the seller immediately at the first public announcement. However, the stock prices would probably also change independently from the divestiture announcement, for example, due to market-wide swings. Hence, the gross change has to be adjusted by the return that would have been expected without the event to obtain the net change (abnormal return) that can be attributed to the divestiture itself. Therefore, the market model was applied where the gross change is adjusted by the proportion of the return that is related to market-wide movements. In a second step following the event studies, a regression analysis was applied to analyse the factors influencing the magnitude of the abnormal returns.

6.2 Overview of Results and Policy Recommendations

The findings of this research support previous evidence in respect to the overall effect of corporate divestitures. Hence, policy makers, i.e. management of companies, should regard divestitures as a viable strategic option and should make use of this instrument more proactively and from a position of strength to develop their business and increase the value of the firm. Thereby, the findings of the research should be considered in order to maximise the scope for shareholder value creation. The results of this research helping policy makers are summarised hereinafter.

Divestitures Create Shareholder Value

The results of the research show that also in the D-A-CH region, corporate divestitures are value-creating corporate activities. For selloffs, the abnormal return averages a highly significant 1.25% at the day of the announcement and also in several other event windows surrounding the announcement, the abnormal returns are constantly positive and range between 1.24% in the [-1;0] event window and 1.88% in the [-3;3] event window. Also, the proportion of selloffs that create shareholder value is significantly positive with 58.97% on the announcement date, just as the absolute abnormal return, which averages 57.48 million Euros on the same day. The abnormal returns for the spinoff sample show the same positive result. However, due to the small sample size, no parametric significance tests were undertaken. A sign test on the proportion of positive abnormal returns reveals a significant positive influence in the [-1;0] and [-1;1] event windows, but not on the announcement date itself. The abnormal returns average 0.95% on the announcement day and 1.92% respectively 2.78% in the commonly reported [-1;0] and [-1;1] event windows. Hence, the results are in line with previous research in the US and UK and confirm the positive effects on shareholder value for Austria, Germany and Switzerland. A further analysis of factors influencing the magnitude of the abnormal returns was only undertaken for the sample of selloffs since the spinoff sample was too small to draw any statistically valid inferences.

Relative Size of the Deal is the Most Important Factor

As in previous studies, the relative size of the divestiture transaction in particular shows to have a positive influence on the abnormal returns; the higher the proportion of the deal value in relation to the market value of the seller, i.e. the more radical the restructuring, the higher are the abnormal returns. This result should encourage managers to be more open towards corporate divestitures. In contrast to the stigma that clings to divestitures (signal of weakness or failure), they, in fact, create significant value.

Strong Sellers Receive Higher Abnormal Returns

Regarding the characteristics of the seller, its financial situation in particular has an impact on the success of the divestitures. The results can, however, not be generalised, but have to be differentiated as follows: the profitability of the seller, which is represented by the return on assets, shows a positive influence on the abnormal return.

Likewise, the z''-score as an indicator of financial distress reveals that a lower probability of bankruptcy influences the shareholder wealth creation positively. Both findings speak for a positive influence of a strong financial position of the seller, which may be caused by a good negotiation position in such cases. Contrary to that, the better the liquidity situation of the seller, proxied by the quick ratio, the smaller the abnormal returns. A rationale for this finding may be possibly emerging agency costs if the seller's liquidity is already at a considerable level and the selloff may lead to even more excess cash that is not subject to monitoring by the shareholders. A negative outlook on the future performance, which is indicated by a negative stock market performance preceding the divestiture announcement, influences the abnormal returns in a positive way. This finding makes sense as well if the divestiture is expected to serve as an instrument to improve the performance prospects of the seller. The growth perspectives of the seller do not show to influence the abnormal returns in any way; the debt level shows a statistically significantly negative effect which is, however, economically insignificant. Hence, regarding the financial situation of the seller, managers can generate the highest returns for shareholders if the performance prospects worsen, but they can still act out of a position of strength. However, they should not have too much liquidity as shareholders may fear agency costs, which would lower the announcement gains.

Concentration on Core Pays Off

Looking at the deal characteristics, the research supports the often-reported finding that especially the disposal of assets that are unrelated to the seller's core business significantly drive shareholder value creation. Referring to the resource-based view, this relationship appears to be reasonable as selling unrelated assets reduces eventually harmful unrelated diversification and allows transfer of the excess resources to markets close to the company's core business. Also, agency costs through capital misallocations and cross-subsidisation can be mitigated in this way. The seller's degree of diversification before the selloff is unrelated to the abnormal returns, which is unexpected for the researcher. The same is true if the announced purpose is a complete strategic shift, which can be seen as a more radical increase in the corporate focus. Connected to the argumentation regarding focus-increasing divestitures, it was also expected that selling assets to a buyer operating in the same industry as the asset disposed is viewed positively by the market because of the possibility to participate in

the value creation potential of the buyer. Although an isolated effect of an industrial fit between buyer and target cannot be shown, the results reveal that focus-increasing selloffs to buyers that fit the target obtain significantly higher abnormal returns than focus-increasing selloffs to buyers that operate in an industry unrelated to the target. For this reason, managers should chiefly divest assets that are unrelated to the company's core business if they want to maximise the shareholder value created through this transaction. If possible, i.e. if they are able to act out of a position of strength, they should moreover rather sell to buyers that operate in the same industry as the disposed asset for the chance of participation in the buyer's potential for synergies.

In contrast to an increase in the corporate industrial focus, the increase of the corporate geographic focus is related to significantly lower abnormal returns than in the case of divestitures of domestic assets. The reason may lie in the view that the decreasing presence in foreign markets may either be seen as admission of a prior mistake or lead to a weakened competitive position towards internationally oriented peers. Thus, divestors should very carefully evaluate the divestiture of foreign assets or even the retreat from certain markets.

Looking at divestitures that are conducted involuntarily, the expected underperformance cannot be proven.

Distributing the Proceeds to Shareholders Drives Shareholder Value Creation

The intended use of the sale proceeds also affects the abnormal returns. As expected, the distribution of the proceeds to the seller's shareholders in particular is related to higher abnormal returns than the other forms. The results regarding the other forms are not as robust since significant differences can only be reported for some event windows. However, it appears that retaining the proceeds in the company to reinvest them in other projects would lead to lower abnormal returns than if the intended use of proceeds is the reduction of debt or even unknown. Interestingly, no effect of (1) the growth perspectives when reinvesting the proceeds, and of (2) the financial situation when using the proceeds to reduce debt, could be detected. Solely looking from a shareholder perspective, this result makes sense as the uncertainty about how the proceeds may be utilised disappears and it is the shareholders that can decide on their own. Yet, the management should carefully evaluate if it can afford a distribution of the proceeds to

the shareholders as, especially in a distressed financial situation, raising money through the capital market for investments or service debt may be very costly.

The Market Regards Private Equity Investors Unfavourably

The type of buyer also seems to play a role in explaining the abnormal returns. In the [0] and [-1;0] event windows, management buyouts and selloffs to strategic investors lead to higher abnormal returns than the sale to private equity investors. Due to the possibilities to create synergies, this result regarding strategic buyers was expected. The result regarding management buyouts, by contrast, was not anticipated as due to the threat of managerial self-dealing, they were rather expected to yield lower abnormal returns. Since it may be that the result is a coincidence due to the small sample of management buyouts, it should be treated with particular caution.

No Influence of Deal Transparency and Economic Environment

No influence on divestiture performance can be attributed to the transparency of the deal, i.e. if major transaction details are already reported at the announcement date, and also for the form of payment. Due to the limited substance of the data regarding these variables, the results also have to be considered with caution. Also, the timing of the divestiture in regard to the economic environment appears to have no influence on the abnormal returns.

Despite these focus variables it appears that abnormal returns are lower if rights and no real assets are divested. Moreover, Austrian selloffs underperform their German and Swiss counterparts significantly, at least in the [0] and [-1;0] event windows. A change in the systematic risk of the seller due to the divestiture does not affect the abnormal returns.

Table 112 compares the findings of this research with previous research in the D-A-CH region.

Author (Year)	Overall effect	Focus increase	Relative size	Parent financial performance	Parent financial distress	Debt level	Subsidiary fin. performance	Price announcement	Foreign assets	Foreign buyer	Agency variables	Form of payment	Use of proceeds	Involuntary selloff	Probability of completion	Type of buyer	Efficiency effects for buyer	Others
D-A-CH																		
Löffler (2001)	(-)	+	×	×			×				×							✓
Eichinger (2001)	+	×						+	-	-								
Müller-Stewens et al. (2001)	(+)	(+)																
Stienemann (2003)	+	×	+	×	×		-	×	+			✓		×		✓		
Bartsch (2005)	+	-		+				×								×		✓
Ostrowski (2007)	+	+	×			+	-	+			×					×		×
Prugovecki (2011)	(+)																	
This research	+	+	+	+	-	-		×	-			×	✓	×		✓	×	✓

Key	
✓	Significant influence
×	No, ambiguous, or insignificant influence
+	Significantly positive influence
-	Significantly negative influence
(parentheses)	Significance unclear
Agency variables	Long-term compensation plans, ownership structure, MBOs & managerial self-dealing, bank debt, agency costs of free cash flow…
Others	Industry, form of divestiture (i.e. horizontal, vertical etc.), capital market/macroeconomic development (boom, recession etc.) asset liquidity, takeover defence, life cycle stage, wealth transfer from bondholders to shareholders, tax reforms, exchange rate changes, industrial classification of country…

Table 112: Comparison of Research Results with Prior Research in the D-A-CH Region

6.3 Limitations

Despite all the care taken, the research results are subject to certain limitations. First, the main limitation is certainly that the results rely on the assumptions of the event study analysis, i.e. efficient capital markets in the semi-strong form and also the ability of the market model to explain the expected returns of an individual security. Although event study methodology seems to be the best method in order to assess the shareholder value effects of divestiture transactions and the results regarding the cross-sectional average should be robust, it may be that for certain cases the conclusions may be misleading. Second, the number of cases in the original sample had to be reduced due to different issues such as confounding news, ambiguous announcement dates or the lack of data. This prevented a further analysis of the factors influencing spinoff transactions. Regarding the still large selloff sample, the number of observations for specific

characteristics was too small to detect statistically reliable results. Third, some analysed characteristics rely on management announcements. As they may be biased, these results should be considered with particular caution. Due to these limitations, there is still some scope for future research in this topic regarding the D-A-CH region. Larger samples could improve the data and the number of observations regarding specific deal characteristics. This would not only allow further improvement of the results regarding selloff transactions but also enable a deeper analysis of the results regarding spinoffs or even other forms such as equity carve-outs as well. Also, collecting data on an ongoing basis over several years, instead of an ex post collection via financial databases, should improve the quality of the sample and reduce missing data. In this regard, the elimination of many cases due to confounding news could be mitigated if the event studies are conducted on an intraday rather than on a daily basis. Moreover, access to private information, as for example the deal multiples, could contribute to being able to increase the proportion of the variation in the abnormal returns that can be explained. So far, only a certain proportion of the abnormal returns can explained. Similarly, other techniques for multivariate analyses, for example quantile regressions, may provide further insights into the origins of shareholder value creation in corporate divestiture transactions.

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Appendix

A Overview Spinoff Sample

Sample No.	Announcement Year	Parent	Target
1	2014	E On SE	E ON SE-Fossil Fuel Assets
2	2014	Allgemeine Baugesellschaft-A Porr AG	PIAG Immobilien AG
3	2014	Conzzeta Holding AG	Plazza AG
4	2014	Walter Meier AG	WM Technologie AG
5	2014	Immofinanz AG	BUWOG AG
6	2013	Deutsche Lufthansa AG	Deutsche Lufthansa-Miles&More
7	2012	Siemens AG	OSRAM Licht AG
8	2012	Metall ZUG AG	Zug Estates Holding AG
9	2012	Zeal Network SE	Tipp24 SE-Lotto24 Lottery Business
10	2011	Rieter Holding AG	Autoneum Holding AG
11	2010	Envio AG	Bebra Biogas Holding AG
12	2009	Oppmann Immobilien AG	Sektkellerei J. Oppmann AG/New
13	2008	Jelmoli Holding AG	Jelmoli-Investment Business
14	2008	Cham Paper Group Holding AG	Hammer Retex AG
15	2007	Sattler & Partner AG	Immovaria Real Estate AG
16	2006	Gurit Holding AG	Medisize Holding AG
17	2005	BWT AG	Christ Water Technology AG
18	2005	EMS-Chemie Holding AG	Dottikon ES Holding AG
19	2004	Bayer AG	Lanxess AG
20	2003	Hypo Vereinsbank AG	Hypo Real Estate Holding AG
21	2001	Depfa Deutsche Pfandbrief Bank	DEPFA Bank AG
22	2001	Sulzer AG	Sulzer Medica AG

Table 113: Overview Spinoff Sample

B Overview Selloff Sample

Sample No.	Announcement Year	Seller	Target
1	2002	RWE AG	Mineraloel Polska Sp zoo
2	2002	Max Automation AG	Stefan Nau GmbH(MAX Holding)
3	2002	E On SE	SKW Gelatin & Specialties
4	2002	Nestle AG	Food Ingredients Specialities SA
5	2002	Daimler AG	DaimlerChrysler Capital Services-Portfolio
6	2002	Bayer AG	Bayer Pharma-Generic Operations
7	2002	Infineon Technologies AG	Infineon Tech-Gallium Semicon
8	2002	Roche Holding AG	Roche-Filgrastm & Pegrilgrastm
9	2002	Siemens AG	Unisphere Networks Inc
10	2002	Roche Holding AG	NBPL Investments
11	2002	Hochtief AG	Helfmann Park Complex-Assets
12	2002	Babcock Borsig	Balcke Cooling Products Group
13	2002	ABB Ltd N	ABB Ltd-Swedish Real Estate
14	2002	Siemens AG	Siemens-Engineering Units(7)
15	2002	Hucke AG	Basler GmbH
16	2002	Roche Holding AG	Roche Holding AG-Vitamins
17	2002	Zimmer Switzerland Holdings LLC	Centerpulse-Intratherapeutics
18	2002	Pfleiderer AG	Pfleiderer-Insulation Technology Business
19	2002	ABB Ltd N	ABB Ltd-Metering Business
20	2002	Clariant AG	Clariant AG-European Emulsions Business
21	2002	Novartis AG	Novartis AG-Food & Beverage
22	2002	Bayer AG	Bayer-Household Insecticide Business
23	2002	Celanese GmbH	Trespaphan GmbH(Celanese AG)
24	2002	Zimmer Switzerland Holdings LLC	Centerpulse-Hearth Valve Business
25	2002	Clariant AG	Clariant Intl.-Hydrosulphite Operations
26	2003	Draegerwerk AG & Company KGaA	Drager Aerospace GmbH
27	2003	Philipp Holzmann AG	Ast-Holzmann GmbH

Sample No.	Announcement Year	Seller	Target
28	2003	LEICA GEOSYSTEMS HOLDINGS AG	Leica Vectronix AG
29	2003	Nestle AG	Avidesa SA-Ice Cream Factory
30	2003	Novartis AG	Novatis AG-Fiorinal Brands
31	2003	Deutsche Telekom AG	TeleCash Kommunikations Service GmbH
32	2003	Schwarz Pharma AG	Schwarz Pharma-Niferex Product Line
33	2003	Ta Triumph-Adler AG	TA Triumph-Adler AG-Remaining Portfolio
34	2003	ABB Ltd N	ABB Gebaeudetechnik GmbH
35	2003	Nestle AG	Nestle Prepared-Ortega Brand
36	2003	Siemens AG	Siemens Med-Life Support
37	2003	Babcock Borsig	BBP Service GmbH
38	2003	RWE AG	Npower-Voice Telephony
39	2003	Celanese GmbH	Celanese AG-Acrylates Business
40	2003	Dinkelacker AG	Dinkelacker-Schwaben Braeu
41	2003	Curasan AG	curasan AG-Pharmasparte AINS
42	2003	Roche Holding AG	Roche Holding AG-Zenapax Right
43	2003	Eurobike AG	Hein Gericke Deutschland GmbH
44	2003	ABB Ltd N	ABB Ltd-Oil Gas Petrochemicals
45	2003	BASF SE	BASF AG-Agricultural Soil
46	2003	Daimler AG	MTU Aero Engines GmbH
47	2003	Philipp Holzmann AG	JA Jones Inc-Military Housing
48	2003	ABB Ltd N	Sirius Insurance Co(ABB Asea)
49	2003	Philipp Holzmann AG	Lockwood Greene Engineers Inc
50	2003	GEA Group AG	Rapidcharge Frigofrance SAS
51	2003	RWE AG	RSB LOGISTIC Projektspedition
52	2004	Actelion Limited	Hesperion Ltd
53	2004	Roche Holding AG	Hoffman-Soriatane Rights
54	2004	Merck KGaA	VWR International Group
55	2004	Pfleiderer AG	Newmark International Inc
56	2004	Heidelberger Druckmaschinen	Heidelberg Digital LLC
57	2004	Linde AG	Linde AG-Refrigeration
58	2004	Nestle AG	Goplana
59	2004	GEA Group AG	Dynamit Nobel AG
60	2004	Adecco SA	Jobpilot AG
61	2004	Infineon Technologies AG	Infineon Tech AG-Fiber Optics
62	2004	Roche Holding AG	F Hoffman-Tasmar Rights

Sample No.	Announcement Year	Seller	Target
63	2004	4MBO INTERNATIONAL ELECTRONIC AG	Jenimage Europe GmbH
64	2004	Mikron Holding AG	Axxicon Mould Technology BV
65	2004	ABB Ltd N	ABB KMT Waterjet Systems AB
66	2004	Clariant AG	Lancaster Synthesis UK
67	2004	Roche Holding AG	Roche Holding AG-OTC Business
68	2004	Clariant AG	AZ Electronic Materials
69	2004	GEA Group AG	Dynamit Nobel AIS GmbH
70	2004	E On SE	Graninge AB-Hydroelectric
71	2004	Valora Holding AG	Valora Hldg AG-Real Estate Properties
72	2004	Clariant AG	Clariant Polymer
73	2004	Teles Informationstechnologie AG	Teles AG-Webhosting Division
74	2004	Bayer AG	NPS BioTherapeutics Inc
75	2005	Deutz AG	Deutz AG-Marine Engine Service
76	2005	Novartis AG	Novartis AG-Brand Rights(2)
77	2005	Merck KGaA	Merck-Electronic Chem Business
78	2005	RWE AG	Amer Water Works Co-Ashbrook
79	2005	Nobel Biocare Holding Ltd	Entific Medical Systems
80	2005	E On SE	E ON Sverige-power plants(20)
81	2005	Atevia N	Web.de AG- Internetportal Business
82	2005	Adidas AG	adidas-Salomon AG-Salomon
83	2005	E On SE	Viterra AG
84	2005	Ascom Holding AG	Ascom Business Systems AG
85	2005	Ascom Holding AG	Ascom (Schweiz) AG-Network
86	2005	Siemens AG	Siemens AG-Mobile Phone Division
87	2005	E On SE	Ruhrgas Industries GmbH
88	2005	Clariant AG	Clariant (Acetyl Bldg Blocks)
89	2005	Ascom Holding AG	Ascom(Schweiz)AG-Transport
90	2005	Primacom AG	Multikable NV
91	2005	UMS United Medical Systems International	Pet Scans of America Corp
92	2005	Duerr AG	Schenck Process GmbH
93	2005	118000 AG	Varetis Solutions GmbH
94	2005	Roche Holding AG	Roche Holding AG-API Business
95	2005	Porsche Automobil Holding SE	CTS Fahrzeug-Dachsysteme GmbH

Sample No.	Announcement Year	Seller	Target
96	2005	Lanxess AG	iSL Chemie GmbH & Co KG
97	2005	Marseille Klinik	Marseille-Kliniken AG-care
98	2005	E On SE	Simeo Srl
99	2005	Lanxess AG	Lanxess AG-Paper Chemicals
100	2006	RHI AG	Heraklith Baustoffe AG
101	2006	Metro AG	Metro AG-Praktiker DIY Stores
102	2006	Siemens AG	Siemens Swiss-certain assets
103	2006	Hornbach Holding AG	Hornbach Holding AG-DIY(7)
104	2006	Ciba Holding AG	Ciba Specialty Chemicals-
105	2006	Pfleiderer AG	Pfleiderer AG-Track Systems Business
106	2006	Volkswagen AG	Europcar International SA
107	2006	Man SE	MAN Roland Druckmaschinen AG
108	2006	Ciba Holding AG	Ciba Specialty Chem-Textile
109	2006	Continental AG	CTNA-OTR Tire Mnfr Facility
110	2006	Clariant AG	Clariant International AG-
111	2006	Augusta Technologie AG	ND SatCom GmbH
112	2006	Infineon Technologies AG	Infeneon Technologies-Munich
113	2006	Ahlers AG	Eterna Mode AG
114	2006	RWE AG	Obragas Holding NV
115	2006	Xstrata PLC	Xstrata Coal Au-Cook Coking
116	2006	Bayer AG	Bayer Healthcare-Diagnostic
117	2006	Fuchs Petrolub AG	LIPPERT-UNIPOL GMBH
118	2006	Daimler AG	DaimlerChrysler AG-German
119	2006	Bayer AG	Bayer CropScience AG-Certain
120	2006	Linde AG	Linde AG-US Air Separation
121	2006	Lindner Holding Kgaa	Lindner Holding AG-Business
122	2006	RWE AG	Thames Water PLC
123	2006	Nestle AG	Nestle SA-Tea Pot Brand Name
124	2006	Thyssenkrupp AG	ThyssenKrupp Budd Co-North
125	2006	Ascom Holding AG	Ascom Italia SpA
126	2006	Otto Stumpf AG	Otto Stumpf GmbH
127	2006	Linde AG	KION Group
128	2006	Lanxess AG	Lanxess AG-Textile Processing
129	2006	Bayer AG	HC Starck GmbH und Co KG
130	2006	Xstrata PLC	Normex
131	2006	Evotec AG	Evotec Technologies GmbH
132	2006	Novartis AG	Novartis Medical Nutrition
133	2006	Bayer AG	Wolff Walsrode AG

Sample No.	Announcement Year	Seller	Target
134	2006	Balda AG	Albea Kunststoff-technik GmbH
135	2006	Deutsche Telekom AG	Viajar.com Viajes SL
136	2007	Infineon Technologies AG	sci-worx GmbH
137	2007	Hochtief AG	Hochtief AG-Westendduo Towers
138	2007	United Internet AG	twenty4help Knowledge Service
139	2007	Altana AG	Sangtec Molecular Diagnostics
140	2007	Balda AG	Balda-Heinze GmbH & Co KG
141	2007	Henkel AG & Company KGaA	Henkel KGaA-European Household
142	2007	Linde AG	Linde AG-Packaged Gas Business
143	2007	Novartis AG	Gerber Products Company
144	2007	GEA Group AG	Lurgi AG
145	2007	Deutsche Telekom AG	T-Online France SAS
146	2007	Merck KGaA	Merck KGaA-Generic Drugs
147	2007	Xstrata PLC	Xstrata Nickel-Nickel Exploration Properties(10)
148	2007	Geberit AG	Geberit International AG-PVC
149	2007	Deutsche Telekom AG	T-Online Telecommunications
150	2007	Daimler AG	Mitsubishi Fuso Truck & Bus-Property Portfolio (184)
151	2007	Heidelbergcement AG	Maxit Holding GmbH
152	2007	Kontron AG	Kontron America-Mobile Rugged
153	2007	ABB Ltd N	ABB Lummus Global Inc
154	2007	Lanxess AG	Borchers GmbH
155	2007	Evotec AG	Evotec AG-Chemical Development
156	2007	Heidelbergcement AG	Symingtons
157	2007	Stada Arzneimittel AG	STADA Medical GmbH
158	2007	Schuler AG	Schuler AG-Goeppingen Plant &
159	2007	aligna	DeltaSelect GmbH-Generics
160	2007	Sartorius AG	Sartorius Bearing Technology
161	2007	Deutsche Telekom AG	T-Systems Media&Broadcast GmbH
162	2007	Linde AG	BOC Edwards Pharmaceutical Systems
163	2007	Metro AG	Metro AG-German Supermarkets
164	2008	E On SE	Karskar Energi AB
165	2008	Thyssenkrupp AG	Thyssenkrupp GmbH
166	2008	Allgeier SE	Allgeier DL GmbH

Sample No.	Announcement Year	Seller	Target
167	2008	Coltene Holding AG	Medisize Medical
168	2008	Fraport AG	ICTS Europe Holding BV
169	2008	Datacolor AG	Eichhof Beverages
170	2008	Solon SE	Solon AG Fuer Solartechnik-
171	2008	Kloeckner & Co SE	Namasco Ltd
172	2008	Bayer AG	Bayer AG-Puteaux Properties(3)
173	2008	Schweiter Technologies AG	Satisloh Holding AG
174	2008	Vossloh AG	Vossloh Infrastructure Service
175	2008	Nestle AG	Nestle Au-Yogurt,Dairy Business
176	2008	Kloeckner & Co SE	Koenig Verbindungstechnik AG
177	2008	Gerresheimer AG	Gerresheimer AG-Technical
178	2008	Roche Holding AG	Roche Holding AG-
179	2008	Bilfinger Berger SE	Razel SA
180	2008	Systaic	Systaic AG-Solar Plants
181	2008	Clariant AG	Dick Peters BV
182	2008	Datacolor AG	Eichhof Real Estate
183	2008	Volkswagen AG	Volkswagen Caminhoes e Onibus
184	2008	Metro AG	Metro AG-Commercial Real
185	2009	Xstrata PLC	Xstrata Coal South America-
186	2009	E On SE	E ON AG-Hydro Power Plants(13)
187	2009	Freenet AG	freenet Breitband Services GmbH
188	2009	Sedo Holding	AdLINK Internet Media AG-
189	2009	Infineon Technologies AG	Infineon Tech-Wireline Communications Business
190	2009	Lafargeholcim Ltd	Holcim Ltd-Panama & Carribean Assets
191	2009	E On SE	Thuega AG
192	2009	Deutsche Lufthansa AG	British Midland Airways Ltd
193	2009	Plenum AG	DOM Digital Online Media GmbH
194	2009	Biotest AG	Biotest AG-Med Diagnostics
195	2009	Sunways AG	MHH Solartechnik GmbH
196	2009	E On SE	E.ON AG-High Voltage Network
197	2009	Freenet AG	Strato AG
198	2009	Deutsche Telekom AG	Deutsche Telekom AG-Office Complex
199	2010	Hochtief AG	maxCologne Building,Cologne
200	2010	Augusta Technologie AG	DLoG GmbH
201	2010	Metro AG	Metro AG-Shopping Mall Giessen
202	2010	E On SE	E.ON US LLC

Sample No.	Announcement Year	Seller	Target
203	2010	Kuros Biosciences	Cytos Biotech-Platform Technology
204	2010	Versat	Versatel Kabel GmbH
205	2010	Tecan Group AG	REMP AG
206	2010	Arcandor AG	Afibel SAS
207	2010	Infineon Technologies AG	Infineon Technologies AG-Wirelesssolutions Business
208	2010	Metro AG	Metro AG-Suppermarket(1)
209	2010	Merck KGaA	Merck KGaA-Theramex Business
210	2010	Georg Fischer AG	Charmilles-Production Site
211	2010	Conergy AG	Epuron GmbH-Wind Assets
212	2010	Merck KGaA	EMD/Merck Crop BioScience Inc
213	2010	E On SE	E.ON Rete Srl
214	2010	Bilfinger Berger SE	Valemus Ltd
215	2010	Colexon Energy	Colexon Italia-Solar Plants(3)
216	2011	A-TEC Industries AG	DST GmbH
217	2011	Dorma Kaba Hold AG	Kaba-Door Automation Business
218	2011	E On SE	Central Networks PLC
219	2011	Biotest AG	Biotest-Microbiology Business
220	2011	3U Holding AG	LambdaNet Communications AG
221	2011	K + S AG	Compo GmbH & Co KG
222	2011	Mayr-Melnhof Karton AG	Mayr-Melnhof Swiss Timber AG
223	2011	E On SE	E ON AG-Natural Gas Pipeline
224	2011	Continental AG	Phoenix Dichtungstechnik GmbH
225	2011	Nestle AG	Nestle Purina PetCare Company - Steel Can making Assets
226	2011	Mensch Und Maschine Software	Mensch&Maschine Software-Distribution Business
227	2011	BASF SE	BASF-Fertilizer Prod Plant
228	2011	K + S AG	K+S-Nitrogen fertilizer Business
229	2011	Bayer AG	Viverso GmbH
230	2011	Forbo Holding AG	Forbo-Adhesives Operations
231	2011	Pfleiderer AG	Uniboard-MDF & Particleboard
232	2012	Kontron AG	Kontron Design Mnfr-Assets
233	2012	Mybet Holding N	JAXX SE-Lottery Business
234	2012	Ascom Holding AG	Ascom Holding AG-Defence Unit
235	2012	OC Oerlikon Corp. AG	Oerlikon Solar Holding AG
236	2012	Alpiq Holding AG	Alpiq Anlagentechnik-ETT
237	2012	E On SE	Open Grid Europe GmbH

Sample No.	Announcement Year	Seller	Target
238	2012	Metro AG	Makro Self Service Wholesalers
239	2012	Metro AG	METRO-Kaufhof Stores(2)
240	2012	Thyssenkrupp AG	ThyssenKrupp-Color/Construction Division
241	2012	Deutsche Rohstoff AG	Deutsche Rohstoff Australia
242	2012	Deutsche Post AG	DHL International GmbH-Plant
243	2012	Pfleiderer AG	Pergo AG
244	2012	Metro AG	Metro-Eastern Europe Real(91)
245	2012	OC Oerlikon Corp. AG	OC Oerlikon-Natural Textiles
246	2012	Morphosys AG	MorphoSys AG-Serotec Research
247	2012	Clariant AG	Clariant AG-Businesses(3)
248	2013	Daimler AG	Daimler Buses North America-Certain Assets
249	2013	Nestle AG	Nestle SA-Infant Nutritional
250	2013	Hochtief AG	Hochtief Airport GmbH
251	2013	Kardex AG	Kardex AG-Stow Division
252	2013	Hochtief AG	HOCHTIEF-Services Solutions
253	2013	Informa PLC	Informa PLC-Corporate Training Businesses (5)
254	2013	Axel Springer AG	Axel Springer-Regional Newspap
255	2013	Glencore PLC	Joe White Maltings Pty Ltd
256	2013	Rhoen-Klinikum AG	Rhoen Klinikum-Hospitals(40)
257	2013	Glencore PLC	Agricore United Holdings Inc
258	2013	BASF SE	BASF SE-Paints Division
259	2013	Clariant AG	Clariant-Det,Intermediates Bus
260	2013	Baywa Registered AG	BayWa renewableenergy GmbH-Wind Park,Everswinkel
261	2013	Siemens AG	Siemens Water Tech Corporation
262	2013	MSG Life AG	COR&FJA Banking Solutions GmbH
263	2013	RWE AG	Electricity Plus Supply Ltd
264	2013	Metro AG	real,- SB-Warenhaus GmbH-Store
265	2014	RWE AG	RWE AG-Gas Power Plant
266	2014	Sulzer AG	Sulzer Metco AG
267	2014	AAP Implantate AG	EMCM BV
268	2014	RWE AG	RWE Dea AG
269	2014	ABB Ltd N	Thomas & Betts Corp-Heating
270	2014	Thyssenkrupp AG	ThyssenKrupp Marine Systems AB

Sample No.	Announcement Year	Seller	Target
271	2014	GEA Group AG	GEA-Heat Exchangers Business
272	2014	ABB Ltd N	Power-One Inc-Power Solutions
273	2014	Clariant AG	Clariant-Leather Services Unit
274	2014	Bayer AG	Bayer-Interventional Division
275	2014	ABB Ltd N	Thomas & Betts Corp-Meyer Steel
276	2014	Heidelberger Druckmaschinen	Heidelberger-Packaging Assets
277	2014	Siemens AG	Siemens AG-Health Info Tech
278	2014	UMS United Medical Systems International	United Medical Systems Inc
279	2014	Deutsche Telekom AG	Deutsche Telekom-Office Buildings (5)
280	2014	Deutsche Post AG	DHL Supply Chain Ltd-Distributionwarehouse
281	2014	SAG Solarstrom AG	SAG Solarstrom-Operating Business
282	2014	BASF SE	BASF India Ltd - Textile Chemicals
283	2014	Clariant AG	Clariant AG-Energy Storage Business
284	2014	Lafargeholcim Ltd	Holcim Ltd-Cement Operations
285	2014	RWE AG	RWE AG-Electricity Network
286	2014	Sartorius AG	Sartorius Mechatronics T&H
287	2014	Nestle AG	Nestle Mexico-Ice Cream
288	2014	Bilfinger Berger SE	Bilfinger-Construction Business
289	2014	Heidelbergcement AG	Hanson Building Products North America
290	2014	Takkt AG	Plant Equipment Group

Table 114: Overview Selloff Sample

C Summary of Hypotheses

INVESTIGATION OBJECT	HYPOTHESIS	H_0	H_1
Overall effect	1	$CAAR = 0$	$CAAR > 0$
Increase in industrial focus	2	$\beta_{IFOCUS\_A} = 0$	$\beta_{IFOCUS\_A} > 0$
		$\beta_{IFOCUS\_S} = 0$	$\beta_{IFOCUS\_S} > 0$
Degree of diversification of focus increasing divestitures	3	$\beta_{NO2} = 0$	$\beta_{NO2} > 0$
Major restructuring/strategic shift	4	$\beta_{MAJ\_RES} = 0$	$\beta_{MAJ\_RES} > 0$
Increase in geographic focus	5	$\beta_{FOREIGN} = 0$	$\beta_{FOREIGN} \neq 0$
		$\beta_{NON\_EU} = 0$	$\beta_{NON\_EU} \neq 0$
Financial distress	6	$\beta_{DISTRESS\_A} = 0$	$\beta_{DISTRESS\_A} < 0$
		$\beta_{DISTRESS\_Z} = 0$	$\beta_{DISTRESS\_Z} < 0$
Involuntary divestiture	7	$\beta_{INVOLUNT} = 0$	$\beta_{INVOLUNT} < 0$
Use of proceeds	8	$\beta_{PAYOUT} = \beta_{DEBT} = \beta_{REINVEST} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = PAYOUT, DEBT, REINVEST$
Using the proceeds to reduce debt based on the seller's debt level	9	$\beta_{DEBT*DE} = 0$	$\beta_{DEBT*DE} \neq 0$
Using the proceeds to reduce debt based on the seller's degree of financial distress (z''-score)	10	$\beta_{DEBT*ZSCORE} = 0$	$\beta_{DEBT*ZSCORE} \neq 0$
Reinvesting the proceeds based on growth opportunities	11	$\beta_{REINVEST*MTB} = 0$	$\beta_{REINVEST*MTB} \neq 0$

INVESTIGATION OBJECT	HYPOTHESIS	H_0	H_1
Transparency	12	$\beta_{PRICE\_A} = \beta_{UNKNOWN} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = PRICE_A, UNKNOWN$
		$\beta_{BOOKGAIN\_A} = 0$	$\beta_{BOOKGAIN\_A} > 0$
		$\beta_{MOTIVE\_A} = 0$	$\beta_{MOTIVE\_A} > 0$
		$\beta_{PROCEEDS\_A} = 0$	$\beta_{PROCEEDS\_A} > 0$
		$\beta_{CONSID\_A} = 0$	$\beta_{CONSID\_A} > 0$
Strategic fit	13	$\beta_{FIT} = 0$	$\beta_{FIT} > 0$
Combination of increase in industrial focus and strategic fit	14	$\beta_{FOCUS\_NOFIT} = \beta_{FOCUS\_FIT} = \beta_{NOFOCUS\_FIT} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = FOCUS\_NOFIT, FOCUS\_FIT, NOFOCUS\_FIT$
Type of buyer	15	$\beta_{MBO} = \beta_{PE} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = MBO, PE$
Form of payment	16	$\beta_{CASH} = 0$	$\beta_{CASH} > 0$
		$\beta_{CASH} = \beta_{OTHER} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = CASH, OTHER$
Relative size	17	$\beta_{MEDIUM} = \beta_{LARGE} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = MEDIUM, LARGE$
Growth opportunities	18	$\beta_{MTB} = 0$	$\beta_{MTB} > 0$
Performance prospects	19	$\beta_{STOCK} = 0$	$\beta_{STOCK} > 0$
Profitability	20	$\beta_{ROA} = 0$	$\beta_{ROA} > 0$
Liquidity	21	$\beta_{QUICK} = 0$	$\beta_{QUICK} > 0$
Leverage	22	$\beta_{DE} = 0$	$\beta_{DE} < 0$
Probability of bankruptcy	23	$\beta_{ZSCORE} = 0$	$\beta_{ZSCORE} > 0$
Economic environment	–	$\beta_{RECESSION} = 0$	$\beta_{RECESSION} \neq 0$
Type of asset	–	$\beta_{PLANT} = \beta_{PROPERTY} = \beta_{RIGHTS} = \beta_{SUBSIDIARY} = \beta_{UNKNOWN} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = PLANT, PROPERTY, RIGHTS, SUBSIDIARY, UNKNOWN$

INVESTIGATION OBJECT	HYPOTHESIS	H_0	H_1
Systematic risk of the seller	–	$\beta_{UNKNOWN} = \beta_{DECREASE} = \beta_{INCREASE} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = UNKNOWN, DECREASE, INCREASE$
Seller/target degree of relationship	–	$\beta_{DIRECT} = 0$	$\beta_{DIRECT} < 0$
Nationality of the seller	–	$\beta_{AUSTRIA} = \beta_{SWITZERLAND} = 0$	$\beta_j \neq 0 \; for \; at \; least \; one \; j = AUSTRIA, SWITEZRLAND$

Table 115: Summary of Hypotheses

D Deal related Information collected from SDC Platinum

CATEGORY	INFORMATION COLLECTED
General Information	SDC Deal Number
	Date Deal was Last Updated in SDC Database
	Sources of Deal Info
Dates	Date Announced
	Date Effective
	Date Withdrawn
	Date of Target Financials
Deal Specifics	Deal Status
	Deal Status Rollup
	Deal Synopsis
	Deal Purpose Code
	Deal Purpose Code Description
	Deal Purpose Test
	Percent of Shares Acquired in Transaction
	Percent of Shares Owned after Transaction
	Regulatory Agencies Required to Approve Deal
Deal Value	Source used for Deal Valuation
	Currency of Deal
	Deal value as-of Date
	Deal Value (Euro Mil)
	Deal Value (Host Mil)
	Deal Value at Effective Date (Euro Mil)
	Deal Value at Effective Date (Host Mil)
	Implied Deal Value (Euro Mil)
	Implied Deal Value (Host Mil)
	Analyst Estimated Value (Host Mil)
	Ranking Value inc. Net Debt of Target (Euro Mil)
	Ranking Value inc. Net Debt of Target (Host Mil)
Consideration	Value of Cash (Euro Mil)
	Value of Cash (Host Mil)
	Value of Common Stock (Euro Mil)
	Value of Common Stock (Host Mil)
	Value of Common Stock at Effective Date (Euro Mil)
	Value of Common Stock at Effective Date (Host Mil)
	Value of Convertible Debt (Euro Mil)

CATEGORY	INFORMATION COLLECTED
	Value of Convertible Debt (Host Mil)
	Value of Convertible Preferred Stock (Euro Mil)
	Value of Convertible Preferred Stock (Host Mil)
	Value of Debt (Euro Mil)
	Value of Debt (Host Mil)
	Equity Value at Announcement (Euro Mil)
	Equity Value at Announcement (Host Mil)
	Value of Other Consideration (Euro Mil)
	Value of Other Consideration (Host Mil)
	Value of Stake Purchase (Euro Mil)
	Value of Stake Purchase (Euro mil)
	Value of Undisclosed Consideration (Euro Mil)
	Value of Undisclosed Consideration (Host Mil)
	Consideration Sought
	Consideration Offered
	Consideration Structure Description
	Final Consideration Structure
	Other Consideration
	Number of Consideration Types Sought
	Number of Consideration Types Offered
Acquirer related Information	Acquirer Name
	Acquirer 6-digit CUSIP
	Acquirer Macro Industry
	Acquirer Mid Industry
	Acquirer Primary SIC Code
	Acquirer Nation
	Acquirer Business Description (Short)
	Acquirer Business Description (Full)
	Acquirer Primary Ticker Symbol
Target related Information	Target Name
	Target 6-digit CUSIP
	Target Macro Industry
	Target Mid Industry
	Target Primary SIC Code
	Target Nation Name
	Target Business Description (Short)
	Target Business Description (Full)
	Target Ultimate Parent Business Description (Full)
	Target Primary Ticker Symbol
	Target Ultimate Parent Primary Ticker Symbol

CATEGORY	INFORMATION COLLECTED
Seller related Information	Seller Ultimate Parent Name
	Seller Ultimate Parent 6-digit CUSIP
	Seller Ultimate Parent Macro Industry
	Seller Ultimate Parent Mid Industry
	Seller Ultimate Parent SIC Code
	Seller Ultimate Parent Nation
	Seller Immediate Parent Name
	Seller Immediate Parent 6-digit CUSIP
	Seller 6-digit CUSIP
	Seller Macro Industry
	Seller Mid Industry
	Seller SIC Code
	Seller Nation

Table 116: Deal Related Information Collected from SDC Platinum

E Explanation of Variables

VARIABLE	EXPLANATION	CHARACTERISTICS
MOTIVE	Indicates the motive of the transaction announced by the management	Categorical variable with the manifestations IFOCUS_A for an increase in the corporate industrial focus, MAJ_RES if the divestiture is part of a major restructuring, INVOLUNT, if the divestiture was conducted due to changes in the legislation or regulatory pressure, RAISECASH if the transaction was conducted to finance an acquisition, UNDERPERF if the target was sold because it was underperforming or even loss making, SALE&LB if the transaction was a sale and lease back transaction, DISTRESS_A if the parent conducted the divestiture due to financial distress, BM if the sale belongs to the business model of the seller and UNKNOWN if the motive was not announced[36]
IFOCUS_A	Indicates an increase in the corporate industrial focus of the seller through the divestiture based on the announcement by the management	Binary variable
IFOCUS_S	Indicates an increase in the corporate industrial focus of the seller through the divestiture based on the seller's and target's two-digit SIC Codes	Binary variable
NO2	Gives the number of two-digit SIC codes that are assigned to the seller	Discrete variable from 1 to 7
MAJ_RES	Indicates a major restructuring or a complete strategic shift through the divestiture based on the announcement by the management	Binary variable
DISTRESS_A	Indicates that the selloff is conducted due to financial distress based on the announcement of the management	Binary variable
DISTRESS_Z	Indicates financial distress of the seller based on the z''-score	Binary variable

[36] For the motives which are subject to a deeper analysis in this thesis, i.e. IFOCUS_A, MAJ_RES, INVOLUNT and DISTRESS_A, the author additionally generated binary variables based on the characteristics of the MOTIVE variable.

VARIABLE	EXPLANATION	CHARACTERISTICS
INVOLUNT	Indicates an involuntary divestiture due to regulatory issues or changes in the legislation based on the announcement of the management	Binary variable
FOREIGN	Indicates if the asset sold is a foreign asset or a domestic asset	Binary variable
NON_EU	Indicates if the asset sold is a non-European asset or an European asset	Binary variable
PROCEEDS	Indicates the intended use of proceeds with the forms reduce debt (DEBT), retain/reinvest (REINVEST) or payout to shareholders (PAYOUT)	Categorical variable with the manifestations DEBT if the proceeds are used to repay debt, REINVEST of the proceeds are retained/reinvested, PAYOUT if the proceeds are distributed to the shareholders and UNKNOWN otherwise
PRICE_A	Indicates if the transaction price is immediately announced by the management	Categorical variable with the manifestations PRICE_A, NOT_ANNOUNCED, and UNKNOWN
BOOKGAIN_A	Indicates if a possible book effect of the transaction is immediately announced by the management	Binary variable
MOTIVE_A	Indicates if the motive of the transaction is immediately announced by the management	Binary variable
PROCEEDS_A	Indicates if the intended use of proceeds is immediately announced by the management	Binary variable
CONSID_A	Indicates if the form of payment is immediately announced by the management	Binary variable
FIT	Indicates if buyer and target operate in the same industry based on the four-digit SIC code	Binary variable
FOCUS_FIT	Combination of the variables IFOCUS_S and FIT	Categorical variable with the four manifestations FOCUS_FIT, NOFOCUS_FIT, FOCUS_NOFIT, NOFOCUS_NOFIT
BUYER	Indicates the type of buyer	Categorical variable with the manifestations PE if the buyer is a private equity company, STRATEGIC if the buyer is a strategic buyer and MBO if the management acts as buyer

VARIABLE	EXPLANATION	CHARACTERISTICS
CASH	Indicates the form of payment	Binary variable with the manifestations CASH if the form of payment is cash and NON_CASH otherwise.
PAYM	Indicates the form of payment (detailed)	Categorical variable with the manifestations CASH if the form of payment is cash, OTHER and UNKNOWN
RELSIZE	Indicates the relative size of the deal in relation to the seller's market capitalization	Continuous variable
SIZE	Indicates the relative size of the real in relation to the seller's market capitalization	Categorical variable with the manifestations SMALL (relative deal value between 0% and 10%), MEDIUM (relative deal value between 10% and 50%), and LARGE (relative deal value 50% or more)
MTB	Indicates the growth perspectives of the seller, proxied by the market-to-book ratio	Continuous variable
MTBD	Indicates the growth perspectives of the seller proxied by the market-to-book ratio	Categorical variable divided by MTB quartiles
STOCK	Indicates the positive performance prospects proxied by a positive buy-and-hold return of the seller's stock in the estimation period	Binary variable
ROA	Indicates the seller's current performance, proxied by the return on assets	Continuous variable
QUICK	Indicates the seller's degree of liquidity, proxied by the quick ratio	Continuous variable
QUICKD	Indicates a quick ratio above one	Binary variable
DE	Indicates the seller's leverage, proxied by the debt/equity ratio	Continuous variable
ZSCORE	Indicates if the seller is likely to become bankrupt within the next two years	Continuous variable
DIRECT	Indicates if the relationship between seller and target is direct or indirect	Binary variable
SELLERNAT	Indicates the nationality of the seller	Categorical variable with the manifestations AUSTRIA, GERMANY, and SWITZERLAND

VARIABLE	EXPLANATION	CHARACTERISTICS
BUYERREG	Indicates the origin of the buyer	Categorical variable with the manifestations EUROPE, NORTH AMERICA, ASIA, OCEANIA, MIDDLE EAST, CENTRAL AMERICA, RUSSIA, SOUTH AMERICA, UNKNOWN, and AFRICA
TARGETREG	Indicates the origin of the target	Categorical variable with the manifestations EUROPE, NORTH AMERICA, ASIA, OCEANIA, CENTRAL AMERICA, and SOUTH AMERICA
BETA	Indicates a significant change (at the 5% alpha level) in the seller's systematic risk (beta) following the announcement of the transaction[37]	Categorical variable with the manifestations NO_CHANGE, INCREASE, DECREASE and UNKNOWN
CYCLE	Indicates the economic environment at the time of the announcement	Binary variable with the manifestations BOOM and RECESSION
ASSET	Indicates the type of asset sold	Categorical variable with the manifestations BU if the asset is a business unit, PLANT if the asset is a plant, PROPERTY if the asset is property, RIGHTS if rights are sold, SUBSIDIARY is the asset an independent entity, and UNKNOWN if the type of asset is not disclosed
DV	Indicates the deal value	Continuous variable
MV	Indicates the seller's market value 10 trading days prior to the announcement	Continuous variable
INDUSTRY	Indicates the industry of the seller based on the ICB classification benchmark	Categorical variable
YEAR	Indicates the year of the announcement of the transaction	Categorical variable from 2000 to 2014

Table 117: Explanation of Variables

[37] The beta coefficients were estimated over a period of 200 trading days before and after the divestiture announcement.

F Supporting Content

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
ASIA	-0.508	-0.299	-0.610	-0.448
	(0.519)	(0.392)	(0.394)	(0.338)
CENTRAL	0.165	0.003	-0.253	-0.301
AMERICA	(0.376)	(0.313)	(0.474)	(0.443)
EUROPE	0.422	0.262	0.191	0.124
	(0.263)	(0.218)	(0.276)	(0.228)
OCEANIA	-0.103	-0.722**	-0.818*	-1.198***
	(0.314)	(0.321)	(0.453)	(0.357)
SOUTH	0.425	-0.676	-0.904***	-1.534*
AMERICA	(0.941)	(0.652)	(0.346)	(0.896)
Cons	0.291	0.271	0.376	0.362*
	(0.212)	(0.180)	(0.247)	(0.200)
F-Statistic	1.35	2.75**	4.62***	4.56***
R^2	0.009	0.014	0.015	0.029
Observations	290	290	290	290

NORTH AMERICA omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 118: Regression of SCAARs on Target Region

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
AFRICA	0.803***	-1.760***	0.353**	-1.609***
	(0.161)	(0.135)	(0.160)	(0.137)
ASIA	-0.762	-0.258	-0.146	0.109
	(0.643)	(0.476)	(0.566)	(0.465)
CENTRAL	0.185	-0.157	-0.208	-0.405
AMERICA	(0.474)	(0.297)	(0.641)	(0.491)
EUROPE	0.604**	0.495**	0.344	0.335*
	(0.253)	(0.204)	(0.221)	(0.193)
MIDDLE EAST	0.017	-0.488	0.375	-0.104
	(0.415)	(0.470)	(0.488)	(0.475)
OCEANIA	0.231	0.217	-0.150	-0.081
	(0.349)	(0.401)	(0.331)	(0.401)
RUSSIA	-0.106	0.305	-0.615	-0.193
	(0.595)	(0.774)	(0.586)	(0.763)
SOUTH	-0.365	0.218	-0.504	-0.024
AMERICA	(0.674)	(0.552)	(0.666)	(0.602)
UNKNOWN	-0.468**	-0.898***	1.617	0.860
	(0.232)	(0.151)	(1.238)	(0.974)
Cons	0.312*	0.194	0.291*	0.216
	(0.161)	(0.135)	(0.160)	(0.137)
F-Statistic	Not reported[38]	Not reported	Not reported	Not reported
R^2	0.033	0.034	0.018	0.019
Observations	290	290	290	290

Africa omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 119: Regression of SCAARs on Acquirer Region

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
BOOKGAIN_A	-0.016	0.120	-0.065	0.050
	(0.536)	(0.426)	(0.380)	(0.354)
Cons	0.619***	0.439***	0.489***	0.401***
	(0.131)	(0.104)	(0.109)	(0.096)
F-Statistic	0.00	0.08	0.03	0.02
R^2	0.000	0.000	0.000	0.000
Observations	290	290	290	290

No omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 120: Regression of SCAARs on the Announcement of a Book Effect

[38] Not reported to not be misleading.

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MOTIVE_A	-0.350	-0.224	0.048	0.059
	(0.350)	(0.289)	(0.299)	(0.279)
Cons	0.902***	0.631**	0.444	0.357
	(0.323)	(0.268)	(0.27)	(0.262)
F-Statistic	1.00	0.60	0.03	0.04
R^2	0.004	0.003	0.000	0.000
Observations	290	290	290	290

No omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 121: Regression of SCAARs on the Announcement of the Motive

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
PROCEEDS_A	0.286	0.236	0.262	0.240
	(0.291)	(0.228)	(0.240)	(0.204)
Cons	0.524***	0.371***	0.398***	0.326***
	(0.143)	(0.116)	(0.117)	(0.107)
F-Statistic	0.96	1.07	1.19	1.38
R^2	0.004	0.004	0.005	0.005
Observations	290	290	290	290

No omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 122: Regression of SCAARs on the Announcement of the Intended Use of Proceeds

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
CONSID_A	0.274	0.127	0.169	0.084
	(0.254)	(0.203)	(0.209)	(0.185)
Cons	0.487***	0.388***	0.403***	0.365***
	(0.173)	(0.134)	(0.146)	(0.124)
F-Statistic	1.16	0.39	0.66	0.20
R^2	0.004	0.001	0.002	0.001
Observations	290	290	290	290

No omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 123: Regression of SCAARs on the Announcement of the Form of Consideration

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
CASH	0.219	0.081	0.145	0.058
	(0.252)	(0.204)	(0.218)	(0.194)
OTHER	0.799	0.566	0.406	0.332
	(0.907)	(0.676)	(0.354)	(0.295)
Cons	0.487***	0.388***	0.403***	0.365***
	(0.173)	(0.134)	(0.146)	(0.124)
F-Statistic	0.68	0.39	0.72	0.63
R^2	0.007	0.005	0.003	0.002
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 124: Regression of SCAARs on the Form of Consideration (Detailed)

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
2nd QUARTILE	-0.563*	-0.336	-0.390	-0.266
	(0.333)	(0.270)	(0.289)	(0.251)
3rd QUARTILE	-0.119	-0.121	-0.253	-0.235
	(0.380)	(0.302)	(0.293)	(0.262)
4th QUARTILE	0.187	0.114	-0.086	-0.081
	(0.389)	(0.303)	(0.310)	(0.275)
Cons	0.739***	0.536**	0.663***	0.551***
F-Statistic	2.08	1.12	0.72	0.48
R^2	0.016	0.009	0.07	0.005
Observations	289	289	289	289

1st QUARTILE omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 125: Regression of SCAARs on Seller Market-to-Book Ratio (Quartile Dummies)

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
QUICKD	0.282	0.202	0.084	0.071
	(0.276)	(0.218)	(0.208)	(0.187)
Cons	0.510***	0.376***	0.421***	0.356***
	(0.138)	(0.113)	(0.127)	(0.108)
F-Statistic	1.04	0.86	0.16	0.14
R^2	0.004	0.004	0.001	0.001
Observations	276	276	276	276

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 126: Regression of SCAARs on Seller Liquidity (Dummy)

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
2nd QUARTILE	0.144	-0.194	-0.311	-0.491
	(0.456)	(0.354)	(0.364)	(0.327)
3rd QUARTILE	-0.917***	-0.678**	-0.888***	0.748***
	(0.343)	(0.277)	(0.298)	(0.265)
4th QUARTILE	-0.682*	-0.602**	-0.596*	-0.584**
	(0.373)	(0.299)	(0.321)	(0.279)
Cons	1.021***	0.851***	0.946***	0.876***
	(0.322)	(0.251)	(0.270)	(0.239)
F-Statistic	5.00***	2.68**	3.78**	2.72**
R^2	0.044	0.027	0.034	0.032
Observations	277	277	277	277

1st QUARTILE omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 127: Regression of SCAARs on Seller Leverage (Quartile Dummies)

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
DIRECT	0.050	0.022	-0.016	-0.025
	(0.257)	(0.206)	(0.216)	(0.198)
Cons	0.582***	0.433***	0.495***	0.422**
	(0.202)	(0.163)	(0.173)	(0.163)
F-Statistic	0.04	0.01	0.01	0.02
R^2	0.000	0.000	0.000	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 128: Regression of SCAARs on Seller/Target Degree of Relationship

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.666**	0.499**	0.806***	0.678***
	(0.280)	(0.230)	(0.233)	(0.207)
LARGE	1.977***	1.534***	1.209**	1.096**
	(0.583)	(0.457)	(0.509)	(0.424)
MTB	0.021**	0.010	0.000	-0.004
	(0.100)	(0.008)	(0.007)	(0.006)
STOCK	-0.673**	-0.541**	-0.461**	-0.430**
	(0.260)	(0.208)	(0.214)	(0.188)
ROA	0.040***	0.030***	0.018**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.136***	-0.091***	-0.037*	-0.027
	(0.030)	(0.025)	(0.201)	(0.019)
ZSCORE	0.077**	0.048*	0.044*	0.031
	(0.034)	(0.029)	(0.024)	(0.022)
Cons	0.230	0.213	0.164	0.176
	(0.217)	(0.177)	(0.179)	(0.153)
F-Statistic	5.25***	4.84***	14.33***	12.00***
R^2	0.270	0.244	0.174	0.174
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 129: Multiple Regression of SCAARs on Seller Related Variables and Relative Size (Without Seller Leverage)

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.646**	0.479**	0.772***	0.646***
	(0.280)	(0.230)	(0.232)	(0.212)
LARGE	1.920***	1.497***	1.178**	1.074**
	(0.578)	(0.453)	(0.510)	(0.424)
STOCK	-0.663**	-0.529**	-0.441**	-0.410**
	(0.266)	(0.211)	(0.214)	(0.190)
ROA	0.040***	0.030***	0.018*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.089***	-0.037*	-0.028
	(0.028)	(0.024)	(0.020)	(0.019)
ZSCORE	0.073**	0.047*	0.046*	0.033
	(0.032)	(0.027)	(0.024)	(0.022)
NON_EU	-0.180	-0.153	-0.209	-0.189
	(0.208)	(0.183)	(0.205)	(0.199)
Cons	0.329	0.281	0.201	0.197
	(0.210)	(0.171)	(0.177)	(0.152)
F-Statistic	5.25***	4.87***	14.71***	12.54***
R^2	0.267	0.244	0.176	0.176
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 130: Multiple Regression of SCAARs on Origin of Divested Asset: Non-European vs European Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.606**	0.457**	0.764***	0.644***
	(0.278)	(0.227)	(0.229)	(0.204)
LARGE	1.851***	1.448***	1.151**	1.052**
	(0.588)	(0.461)	(0.507)	(0.425)
STOCK	-0.655**	-0.515**	-0.447**	-0.408**
	(0.279)	(0.220)	(0.225)	(0.200)
ROA	0.045***	0.034***	0.021**	0.019**
	(0.014)	(0.011)	(0.009)	(0.007)
QUICK	-0.068***	-0.051***	0.000	-0.002
	(0.018)	(0.014)	(0.010)	(0.009)
DISTRESS_Z	-0.359	-0.160	-0.228	-0.113
	(0.295)	(0.235)	(0.272)	(0.226)
Cons	0.537**	0.374*	0.315	0.254
	(0.263)	(0.210)	(0.210)	(0.191)
F-Statistic	4.71***	4.83***	14.31***	13.07***
R^2	0.253	0.233	0.166	0.167
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 131: Multiple Regression of SCAARs on Seller Financial Condition: Distressed vs Healthy (z''-Score) Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.772***	0.564**	0.803***	0.667***
	(0.288)	(0.236)	(0.244)	(0.217)
LARGE	2.046***	1.581***	1.205**	1.092**
	(0.585)	(0.459)	(0.508)	(0.425)
STOCK	-0.687***	-0.548***	-0.461**	-0.428**
	(0.259)	(0.207)	(0.214)	(0.188)
ROA	0.040***	0.030***	0.018**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.128***	-0.088***	-0.037*	-0.029
	(0.029)	(0.024)	(0.020)	(0.018)
ZSCORE	0.071**	0.045	0.044*	0.032
	(0.033)	(0.029)	(0.023)	(0.021)
PURPOSE_A	-0.484*	-0.300	0.015	0.047
	(0.276)	(0.235)	(0.217)	(0.212)
Cons	0.667**	0.474**	0.153	0.128
	(0.262)	(0.233)	(0.232)	(0.224)
F-Statistic	5.33***	4.91***	13.94***	11.94***
R^2	0.274	0.248	0.174	0.174
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 132: Multiple Regression of SCAARs on the Announcement of the Motive Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.792**	0.585**	0.937***	0.782***
	(0.323)	(0.263)	(0.262)	(0.238)
LARGE	2.164***	1.670***	1.452**	1.299***
	(0.614)	(0.494)	(0.559)	(0.482)
STOCK	-0.681**	-0.544***	-0.461**	-0.428**
	(0.261)	(0.208)	(0.213)	(0.187)
ROA	0.039***	0.030***	0.017*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.126***	-0.087***	-0.034*	-0.026
	(0.028)	(0.023)	(0.020)	(0.018)
ZSCORE	0.071**	0.044*	0.043*	0.030
	(0.032)	(0.027)	(0.023)	(0.021)
PROCEEDS_A	-0.336	-0.234	-0.376	-0.305
	(0.294)	(0.243)	(0.257)	(0.230)
Cons	0.354	0.284	0.228	0.215
	(0.224)	(0.181)	(0.188)	(0.164)
F-Statistic	5.35***	4.94***	11.59***	10.25***
R^2	0.270	0.246	0.182	0.180
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 133: Multiple Regression of SCAARs on the Announcement of the Intended Use of Proceeds Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.699**	0.504**	0.833***	0.685***
	(0.297)	(0.239)	(0.239)	(0.209)
LARGE	0.195***	1.519***	1.209**	1.102***
	(0.583)	(0.456)	(0.506)	(0.422)
STOCK	-0.677**	-0.544**	-0.457**	-0.427**
	(0.263)	(0.209)	(0.214)	(0.188)
ROA	0.040***	0.030***	0.019**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.089***	-0.037*	-0.029
	(0.028)	(0.023)	(0.020)	(0.018)
ZSCORE	0.072**	0.045*	0.044*	0.032
	(0.031)	(0.027)	(0.023)	(0.021)
BOOKGAIN_A	-0.190	-0.005	-0.208	-0.068
	(0.461)	(0.391)	(0.364)	(0.349)
Cons	0.306	0.245	0.174	0.167
	(0.213)	(0.171)	(0.175)	(0.150)
F-Statistic	5.43***	4.91***	14.48***	12.05***
R^2	0.267	0.243	0.175	0.174
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 134: Multiple Regression of SCAARs on the Announcement of a Book Effect Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.670**	0.503**	0.806***	0.679***
	(0.283)	(0.231)	(0.234)	(0.206)
LARGE	1.939***	1.519***	1.208**	1.106***
	(0.580)	(0.455)	(0.507)	(0.423)
STOCK	-0.680**	-0.544**	-0.162**	-0.430**
	(0.262)	(0.209)	(0.214)	(0.188)
ROA	0.040***	0.030***	0.018**	0.017**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.130***	-0.089***	-0.037*	-0.028
	(0.028)	(0.023)	(0.020)	(0.018)
ZSCORE	0.072**	0.045*	0.044*	0.032
	(0.031)	(0.027)	(0.023)	(0.022)
CONSID_K	0.083	-0.001	0.002	-0.046
	(0.222)	(0.179)	(0.188)	(0.164)
Cons	0.260	0.245	0.164	0.185
	(0.567)	(0.201)	(0.205)	(0.172)
F-Statistic	5.38***	4.86***	14.25***	12.07***
R^2	0.267	0.243	0.174	0.174
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 135: Multiple Regression of SCAARs on the Announcement of the Form of Consideration Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.671**	0.504**	0.807***	0.680***
	(0.284)	(0.233)	(0.234)	(0.207)
LARGE	1.955***	1.534***	1.215**	1.114***
	(0.584)	(0.458)	(0.509)	(0.425)
STOCK	-0.681**	-0.545**	-0.462**	-0.430**
	(0.263)	(0.209)	(0.215)	(0.188)
ROA	0.040***	0.030***	0.018*	0.016**
	(0.014)	(0.011)	(0.010)	(0.008)
QUICK	-0.129***	-0.088***	-0.037*	-0.028
	(0.027)	(0.023)	(0.020)	(0.019)
ZSCORE	0.072**	0.046*	0.044*	0.032
	(0.031)	(0.027)	(0.023)	(0.022)
CASH	0.053	-0.026	-0.010	-0.060
	(0.225)	(0.182)	(0.196)	(0.172)
OTHER	0.366	0.245	0.124	0.089
	(0.617)	(0.459)	(0.296)	(0.234)
Cons	0.262	0.246	0.164	0.185
	(0.256)	(0.200)	(0.205)	(0.173)
F-Statistic	4.89***	4.40***	12.33***	10.55***
R^2	0.267	0.244	0.174	0.174
Observations	272	272	272	272

SMALL deals omitted

UNKNOWN form of payment omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 136: Multiple Regression of SCAARs on the Form of Consideration (Detailed) Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.695**	0.500**	0.793***	0.651***
	(0.276)	(0.229)	(0.231)	(0.205)
LARGE	1.943***	1.520***	1.211**	1.106***
	(0.581)	(0.457)	(0.506)	(0.422)
STOCK	-0.637**	-0.551**	-0.490**	-0.483**
	(0.271)	(0.218)	(0.220)	(0.193)
ROA	0.040***	0.031***	0.019**	0.018**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.129***	-0.089***	-0.038*	-0.029
	(0.028)	(0.024)	(0.020)	(0.018)
ZSCORE	0.073**	0.045*	0.044*	0.031
	(0.031)	(0.026)	(0.023)	(0.021)
RECESSION	0.190	-0.030	-0.123	-0.235
	(0.257)	(0.215)	(0.216)	(0.195)
Cons	0.222	0.257	0.214	0.257
	(0.236)	(0.195)	(0.198)	(0.171)
F-Statistic	5.84***	4.91***	13.87***	11.87***
R^2	0.268	0.243	0.175	0.178
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 137: Multiple Regression of SCAARs on Economic Environment Incl. Controls

	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
MEDIUM	0.667**	0.498**	0.807***	0.678***
	(0.285)	(0.233)	(0.233)	(0.209)
LARGE	1.948***	1.519***	1.193**	1.088**
	(0.582)	(0.455)	(0.503)	(0.419)
STOCK	-0.677**	-0.541**	-0.455**	-0.423**
	(0.261)	(0.208)	(0.214)	(0.189)
ROA	0.040***	0.030***	0.018*	0.016**
	(0.015)	(0.011)	(0.009)	(0.008)
QUICK	-0.130***	-0.089***	-0.034*	-0.026
	(0.028)	(0.024)	(0.020)	(0.019)
ZSCORE	0.072**	0.045*	0.043*	0.031
	(0.031)	(0.027)	(0.023)	(0.021)
DECREASE	0.137	0.078	-0.218	-0.192
	(0.337)	(0.249)	(0.281)	(0.218)
INCREASE	-0.110	-0.101	-0.214	-0.195
	(0.239)	(0.243)	(0.299)	(0.309)
Cons	0.394	0.246	0.213	0.207
	(0.212)	(0.174)	(0.177)	(0.154)
F-Statistic	4.65***	4.28***	12.45***	10.58***
R^2	0.267	0.244	0.177	0.176
Observations	272	272	272	272

SMALL deals omitted

NO CHANGE omitted, UNKNOWN omitted because of collinearity.

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 138: Multiple Regression of SCAARs on the Change in the Seller's Systematic Risk Incl. Controls

G Additional Information – Standardised Abnormal Returns

YEAR	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
2002	25	0.622*	0.159	0.298*	0.016
2003	25	0.660	0.567	0.718	0.667
2004	24	0.406	0.260	0.359**	0.272
2005	26	0.549	0.450	0.352	0.337
2006	35	0.088	0.122	0.452*	0.416*
2007	28	0.464*	0.151	0.291	0.094
2008	22	1.640*	1.324*	0.714	0.714
2009	12	0.675	0.298	0.396	0.177
2010	16	0.204	0.222	-0.021	0.047
2011	18	1.150	1.015	1.096	1.063*
2012	16	0.852*	0.657***	0.912	0.789*
2013	18	1.414	1.147	0.758	0.739
2014	25	-0.014	-0.009	0.199	0.164

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 139: Selloff SCAARs by Year

INDUSTRY	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Automobile & Parts	10	-0.099	-0.027	-0.110	-0.055
Basic Resources	9	0.378	-0.129	-0.217	-0.499
Chemicals	43	0.162	-0.039	0.150	-0.003
Constr. & Materials	21	0.752*	0.644	0.523	0.520
Food & Beverage	11	1.646	0.981	1.202	0.839
Health Care	42	0.761***	0.551**	0.636***	0.531***
Industrial Gds. & Serv.	61	0.567***	0.372**	0.463**	0.354**
Media	4	3.473	2.340	2.202	1.703
Oil & Gas	4	0.488	0.374	0.839	0.709*
Pers. & Househ. Goods	5	2.008	1.256	1.264	0.895
Real Estate	1	7.240*	5.951*	10.568*	9.298*
Retail	14	0.561	0.435	0.494	0.434
Technology	26	1.309	1.134	0.649	0.699
Telecomm-unication	10	0.263	0.448	0.516	0.631
Travel & Leisure	2	0.047	0.900	-0.698	0.138
Utilities	27	-0.314	-0.070	0.039	0.155

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 140: Selloff SCAARs by Industry

SELLERNAT	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Austria	3	-0.309	0.027	0.138	0.312
Germany	203	0.568***	0.447***	0.487***	0.434***
Switzerland	84	0.770***	0.467***	0.487***	0.336**

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 141: Selloff SCAARs by Seller Nation

TARGETREG	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Europe	228	0.713***	0.533***	0.568***	0.486***
North America	42	0.291*	0.271*	0.376*	0.362**
Asia	6	-0.217	-0.028	-0.234	-0.086
Oceania	6	0.188	-0.451	-0.442	-0.836
Central America	5	0.456	0.274	0.123	0.061
South America	3	0.716	-0.405	-0.528	1.171

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 142: Selloff SCAARs by Target Region

ACQUIRERREG	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Europe	165	0.917***	0.689***	0.635***	0.551***
North America	89	0.312**	0.194*	0.291**	0.216*
Asia	16	-0.450	-0.065	0.145	0.325
Oceania	6	0.543	0.411	0.141	0.135
Middle East	4	0.330	-0.294	0.666	0.113
Central America	3	0.497	0.037	0.083	-0.188
Russia	2	0.207	0.499	-0.324	0.024
South America	2	-0.053	0.412	-0.213	0.192
Unknown	2	-0.156	-0.704	1.908	1.076
Africa	1	1.115	-1.566	0.644	-1.392

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 143: Selloff SCAARs by Acquirer Region

MOTIVE	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Increase focus	128	0.581***	0.390***	0.464***	0.362***
Major restructuring	34	1.192***	0.937***	0.968***	0.868***
Financial Distress	14	-0.299	-0.275	0.251	0.152
Under-performance	11	0.251	0.653	0.649	0.916
Regulatory Issues	12	0.000	-0.018	-0.226	-0.199
Raise cash	18	1.065	0.706	0.748	0.572
Business model	8	-0.009	0.030	0.131	0.137
Sale and lease back	11	-0.204	-0.169	0.134	0.087
Unknown	54	0.902***	0.631**	0.444*	0.357*

*, **, *** indicate statistical significance at the 10%, 5%, and 1% level based on a right tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 144: Selloff SCAARs by Motive

IFOCUS_A	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Increase	128	0.581***	0.495***	0.464***	0.362***
No increase	162	0.646***	0.390***	0.499***	0.438***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 145: Selloff SCAARs by Increase in Focus (Announced)

IFOCUS_S	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Increase	144	0.709***	0.623***	0.642***	0.625***
No increase	146	0.527***	0.276**	0.627***	0.187**

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 146: Selloff SCAARs by Increase in Focus (Based on SIC Code)

NO2	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
1	36	1.267**	0.926**	0.869**	0.733**
2	80	0.699***	0.472**	0.453**	0.353**
3	72	0.437**	0.289*	0.227	0.169
4	37	0.324*	0.162	0.597***	0.431**
5	43	0.479**	0.457**	0.518**	0.519***
6	18	0.683	0.674**	0.481	0.549
7	3	0.269	-0.199	0.981	0.486

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 147: Selloff SCAARs by Degree of Diversification

NO2	1	2	3	4	5	6	7
Focus increase	1.712	0.929	0.719**	0.233	0.559	0.539	0.269
Cases	12	23	42	19	33	11	3
No focus increase	1.045	0.606***	0.041	0.421	0.216	0.909	-
Cases	24	57	30	18	10	7	0

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 148: Selloff Announcement Day Standardised Average Abnormal Returns by Increase in Focus (Based on SIC Code) and Degree of Diversification

MAJ_RES	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Yes	34	1.192***	0.937***	0.968***	0.868***
No	256	0.541***	0.384***	0.419***	0.343***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 149: Selloff SCAARs by Major Restructuring

FOREIGN	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Foreign	134	0.264***	0.152**	0.170*	0.111
Domestic	156	0.921***	0.703***	0.753***	0.657***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 150: Selloff SCAARs by Origin of Divested Asset: Foreign vs Domestic

NON_EU	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Non-Europe	62	0.266*	0.139	0.174	0.105
Europe	228	0.713***	0.533***	0.568***	0.486***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 151: Selloff SCAARs by Origin of Divested Asset: European vs Non-European

DISTRESS_A	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Distress	14	-0.299	-0.275	0.251	0.152
No distress	276	0.664***	0.485***	0.495***	0.417***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 152: Selloff SCAARs by Seller Financial Condition: Distressed vs Healthy (Announced)

DISTRESS_Z	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Distress	62	0.201	0.186	0.486	0.248*
No distress	222	0.696***	0.482***	0.262***	0.389***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 153: Selloff SCAARs by Seller Financial Condition: Distressed vs Healthy (z"-Score)

INVOLUNT	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Involuntary	12	0.000	-0.018	-0.226	-0.199
Voluntary	278	0.644***	0.469***	0.514***	0.431***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 154: Selloff SCAARs by Voluntariness of the Deal

PROCEEDS	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Payout	4	4.410	3.442	4.810**	4.189**
Reduce debt	56	0.359*	0.371**	0.387**	0.411***
Retain/reinvest	35	1.118**	0.661**	0.622**	0.400*
Unknown	195	0.524***	0.371***	0.398***	0.326***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 155: Selloff SCAARs by Intended Use of Proceeds

DEBT	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Distress	23	0.041	-0.042	0.415	0.280
No distress	32	0.604**	0.674***	0.391*	0.519***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 156: Selloff SCAARs if Proceeds are Used to Repay Debt by Seller Financial Condition

REINVEST	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
1st Quartile MTB	12	0.833	0.749	0.039	0.158
2nd Quartile MTB	6	-0.518	-0.785	-0.241	-0.539
3rd Quartile MTB	10	1.312	0.640	1.081	0.646
4th Quartile MTB	7	2.732***	1.779**	1.705	1.268

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 157: Selloff SCAARs if Proceeds are Retained or Reinvested by Seller Growth Perspectives

PRICE_A	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Announced	218	0.725***	0.470***	0.582***	0.441***
Not announced	40	0.464***	0.476***	0.122	0.222
Unknown	32	0.080	0.265	0.265	0.386**

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 158: Selloff SCAARs by Announcement of Transaction Price

BOOKGAIN_A	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Announced	23	0.603	0.559	0.424	0.451
Not announced	267	0.619***	0.439***	0.489***	0.401***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 159: Selloff SCAARs by Announcement of Book Effect

MOTIVE_A	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Announced	236	0.552***	0.407***	0.492***	0.415***
Not announced	54	0.902***	0.631**	0.444*	0.357*

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 160: Selloff SCAARs by Announcement of the Motive

PROCEEDS_A	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Announced	95	0.809***	0.607***	0.659***	0.566***
Not announced	195	0.524***	0.371***	0.398***	0.326***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 161: Selloff SCAARs by Announcement of Intended Use of Proceeds

CONSID_A	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Announced	138	0.761***	0.515***	0.572***	0.448***
Not announced	152	0.487***	0.388***	0.403***	0.365***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 162: Selloff SCAARs by Announcement of Form of Consideration

FIT	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Fit	70	0.747**	0.677***	0.525**	0.552**
No fit	220	0.576***	0.376***	0.470***	0.358***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 163: Selloff SCAARs by Strategic Fit Between Target and Buyer

FOCUSFIT	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Focus & fit	29	1.313	1.098	1.125	1.059
No focus & fit	41	0.346	0.379*	0.102	0.193
Focus & no fit	115	0.557***	0.504***	0.521***	0.515***
No focus & no fit	105	0.598***	0.236*	0.415***	0.185*

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 164: Selloff SCAARs by Combination of Strategic Fit Between Target and Buyer and Increase in Focus

BUYER	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Strategic	213	0.689***	0.503***	0.486***	0.410***
Private Equity	68	0.267**	0.193*	0.358***	0.296**
Management	8	1.776**	1.309**	1.086	0.943**

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 165: Selloff SCAARs by Type of Buyer

CASH	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Cash	125	0.706***	0.469***	0.547***	0.423***
No cash	165	0.550***	0.433***	0.435***	0.391***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 166: Selloff SCAARs by Form of Consideration

PAYM	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Cash	125	0.706***	0.469***	0.547***	0.423***
Other	13	1.286	0.955	0.809**	0.697
Unknown	152	0.487***	0.388***	0.403***	0.365***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 167: Selloff SCAARs by Form of Consideration (Detailed)

SIZE	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Small	184	0.185**	0.113*	0.097	0.065
Medium	61	0.901***	0.669***	0.908***	0.766***
Large	45	2.000***	1.523***	1.487***	1.302***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 168: Selloff SCAARs by Relative Size of the Deal

MTB	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
1st Quartile	76	0.739***	0.536***	0.663***	0.551***
2nd Quartile	68	0.176	0.200	0.274*	0.285**
3rd Quartile	73	0.620**	0.415**	0.410**	0.316**
4th Quartile	72	0.926***	0.650***	0.577***	0.469**

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 169: Selloff SCAARs by Seller Market-to-Book Ratio

STOCK	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Positive	180	0.425***	0.297***	0.334***	0.270***
Negative	110	0.932***	0.696***	0.729***	0.625***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 170: Selloff SCAARs by Seller Performance Prospects

ROA	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Positive	236	0.751***	0.556***	0.459***	0.537***
Negative	42	0.121	0.063	0.225	0.299

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 171: Selloff SCAARs by Seller Profitability

QUICK	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Above 1	110	0.792***	0.578***	0.505***	0.427***
Below 1	166	0.510***	0.376***	0.421***	0.356***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 172: Selloff SCAARs by Seller Liquidity

DE	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
1st Quartile	70	1.021***	0.851***	0.946***	0.876***
2nd Quartile	68	1.165***	0.656***	0.635***	0.385**
3rd Quartile	69	0.105	0.173*	0.058	0.128
4th Quartile	70	0.339**	0.248*	0.350**	0.292**

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 173: Selloff SCAARs by Seller Leverage

CYCLE	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Boom	223	0.493***	0.396***	0.488***	0.428***
Recession	67	1.030***	0.625***	0.505**	0.328**

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 174: Selloff SCAARs by Economic Environment

ASSET	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Subsidiary	142	0.701***	0.549***	0.644***	0.569***
Business unit	92	0.797***	0.547***	0.495***	0.391**
Property	25	0.218	0.239	0.178	0.214
Plant	20	0.085	-0.053	0.063	-0.039
Rights	9	0.011	-0.169	-0.148	-0.263
Unknown	2	-0.521	-0.768	-0.577	-0.799

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 175: Selloff SCAARs by Type of Asset Sold

BETA	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Increase	28	0.206	0.153	0.078	0.069
Decrease	34	0.538*	0.369*	0.273	0.215
No change	226	0.719***	0.522***	0.589***	0.493***
Unknown	2	-3.708	-2.395	-2.209	1.620

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 176: Selloff SCAARs by Change in the Seller's Systematic Risk

DIRECT	N	SAAR [0]	SCAAR [-1;0]	SCAAR [0;1]	SCAAR [-1;1]
Direct	206	0.632***	0.455***	0.479***	0.397***
Indirect	84	0.582***	0.433***	0.495***	0.422***

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, based on a right-tailed standardised cross-sectional test if N>=30 and Fisher's exact test if N<30.

Table 177: Selloff SCAARs by Seller/Target Degree of Relationship

H Additional Information – Bivariate Regressions with Generic Abnormal Returns

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
AUSTRIA	-0.506	-0.599	-0.738	-0.831
	(1.353)	(0.951)	(1.085)	(0.823)
SWITZERLAND	0.024	-0.363	-0.203	-0.590
	(0.731)	(0.778)	(0.766)	(0.815)
Cons	1.251**	1.355**	1.512**	1.617***
	(0.629)	(0.658)	(0.598)	(0.604)
F-Statistic	0.09	0.21	0.23	0.53
R^2	0.000	0.001	0.000	0.001
Observations	290	290	290	290

GERMANY omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 178: Regression of CAARs on the Seller Nation

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
ASIA	-0.692	-0.413	-1.841**	-1.562**
	(0.484)	(0.513)	(0.740)	(0.712)
CENTRAL	0.015	0.376	-1.268	-0.906
AMERICA	(0.475)	(0.714)	(0.885)	(1.093)
EUROPE	1.045	1.265*	0.125	0.345
	(0.660)	(0.696)	(0.858)	(0.831)
OCEANIA	-0.096	-0.476	-1.838*	-2.218**
	(0.470)	(0.542)	(1.030)	(1.009)
SOUTH	2.242	-0.884	-2.632***	-5.758
AMERICA	(2.063)	(2.814)	(0.686)	(4.402)
Cons	0.424	0.270	1.473**	1.319**
	(0.324)	(0.348)	(0.659)	(0.614)
F-Statistic	1.63	1.47	7.39***	2.87**
R^2	0.004	0.005	0.005	0.010
Observations	290	290	290	290

NORTH AMERICA omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 179: Regression of CAARs on Target Region

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
AFRICA	-0.662	-2.096***	-0.973*	-2.407***
	(0.574)	(0.762)	(0.555)	(0.691)
ASIA	-6.833	-5.797	-4.701	-3.665
	(5.767)	(5.267)	(4.915)	(4.413)
CENTRAL	-1.009	-1.098	-1.676*	-1.765*
AMERICA	(0.629)	(0.813)	(0.883)	(0.992)
EUROPE	0.815	1.121	0.498	0.804
	(0.736)	(0.918)	(0.764)	(0.886)
MIDDLE EAST	-0.940	-1.667	-0.478	-1.205
	(0.732)	(1.046)	(0.985)	(1.126)
OCEANIA	-0.195	-0.040	-0.665	-0.510
	(0.748)	(0.984)	(0.889)	(1.076)
RUSSIA	-0.833	0.067	-1.673*	-0.773
	(0.857)	(1.464)	(0.949)	(1.546)
SOUTH	-0.710	0.474	-1.030	0.154
AMERICA	(1.041)	(1.509)	(1.242)	(1.692)
UNKNOWN	-1.624**	-4.027***	7.703	5.300
	(0.748)	(0.766)	(6.024)	(5.639)
Cons	1.217**	0.992	1.428**	1.204*
	(0.574)	(0.762)	(0.555)	(0.691)
F-Statistic	Not reported[39]	Not reported	Not reported	Not reported
R^2	0.051	0.041	0.033	0.023
Observations	290	290	290	290

NORTH AMERICA omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 180: Regression of CAARs on Acquirer Region

[39] Not reported to not be misleading.

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
BM	1.219	2.183	-1.082	-0.428
	(7.568)	(7.725)	(7.198)	(7.157)
IFOCUS_A	2.610	3.363	-0.325	0.428
	(7.566)	(7.709)	(6.770)	(6.836)
MAJ_RES	3.355	4.469	0.217	1.331
	(7.615)	(7.756)	(6.812)	(6.873)
RAISE CASH	3.353	3.659	0.569	0.875
	(7.634)	(7.794)	(6.951)	(7.047)
INVOLUNT	1.290	2.396	-2.197	-1.091
	(7.558)	(7.701)	(6.769)	(6.834)
SALE & LB	1.241	1.826	-1.176	-0.591
	(7.564)	(7.704)	(6.784)	(6.833)
UNDERPERF	0.879	2.703	-0.221	1.604
	(7.607)	(7.745)	(7.098)	(7.050)
UNKNOWN	3.098	4.093	-0.592	0.402
	(7.586)	(7.739)	(6.794)	(6.873)
Cons	-1.253	-2.085	1.183	0.981
	(7.553)	(7.694)	(6.755)	(6.820)
F-Statistic	2.25**	1.82*	1.66	1.46
R^2	0.013	0.015	0.005	0.006
Observations	290	290	290	290

DISTRESS omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 181: Regression of CAARs on the Deal Motive

IFOCUS_A	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
IFOCUS_A	0.185	0.062	0.074	-0.049
	(0.853)	(0.899)	(0.835)	(0.856)
Cons	1.171	1.217	1.143**	1.459**
	(0.734)	(0.764)	(0.704)	(0.720)
F-Statistic	0.05	0.00	0.01	0.00
R^2	0.000	0.000	0.000	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 182: Regression of CAARs on an Increase in Focus (Announced)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
IFOCUS_S	-0.483	-0.369	0.015	0.129
	(0.908)	(0.954)	(0.883)	(0.905)
Cons	1.493***	1.427***	1.43***	1.373***
	(0.437)	(0.488)	(0.470)	(0.475)
F-Statistic	0.28	0.15	0.00	0.02
R^2	0.001	0.001	0.000	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 183: Regression of CAARs on an Increase in Focus (Based on SIC Code)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
NO2	-0.142	-0.225	0.311	0.227
	(0.269)	(0.313)	(0.354)	(0.385)
Cons	1.698	1.944	0.476	0.722
	(1.191)	(1.241)	(1.214)	(1.253)
F-Statistic	0.28	0.52	0.77	0.35
R^2	0.000	0.002	0.004	0.002
Observations	289	289	289	289

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 184: Regression of CAARs on the Degree of Diversification

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
IFOCUS_S	-2.438	-1.479	-1.799	-0.840
	(2.909)	(2.924)	(2.819)	(2.840)
NO2	-0.469	-0.435	0.068	0.103
	(0.307)	(0.368)	(0.347)	(0.378)
IFOCUS_S*NO2	0.664	0.415	0.490	0.242
	(0.638)	(0.693)	(0.742)	(0.785)
Cons	2.752**	2.596**	1.254	1.098
	(1.120)	(1.272)	(1.027)	(1.116)
F-Statistic	0.83	0.48	0.27	0.12
R^2	0.005	0.003	0.006	0.003
Observations	289	289	289	289

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 185: Regression of CAARs on an Increase in Focus, the Degree of Diversification and an Interaction Term of Both Variables

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MAJ_RES	0.961	1.292	0.661	0.992
	(1.075)	(1.102)	(0.992)	(0.979)
Cons	1.140**	1.093**	1.368***	1.321***
	(0.496)	(0.522)	(0.485)	(0.498)
F-Statistic	0.80	1.37	0.44	1.02
R^2	0.002	0.003	0.001	0.002
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 186: Regression of CAARs on a Major Restructuring

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
FOREIGN	-1.038	-1.402	-1.403*	-1.766**
	(0.849)	(0.892)	(0.832)	(0.851)
Cons	1.732**	1.892**	2.094***	2.253***
	(0.813)	(0.847)	(0.764)	(0.781)
F-Statistic	1.50	2.47	2.84*	4.31**
R^2	0.005	0.008	0.009	0.013
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 187: Regression of CAARs on Origin of Divested Asset: Foreign vs Domestic

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
NON_EU	-1.012	-1.364**	-0.711	-1.062
	(0.625)	(0.661)	(0.718)	(0.753)
Cons	1.469**	1.536**	1.598***	1.664***
	(0.571)	(0.598)	(0.545)	(0.556)
F-Statistic	2.62	4.25**	0.98	1.99
R^2	0.003	0.005	0.002	0.003
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 188: Regression of CAARs on Origin of Divested Asset: Non-European vs European

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
DISTRESS_A	-0.633	-3.498	0.385	-0.479
	(7.467)	(7.606)	(6.680)	(6.744)
Cons	1.380***	1.413***	1.143***	1.460***
	(0.286)	(0.314)	(0.315)	(0.329)
F-Statistic	0.12	0.21	0.00	0.01
R^2	0.005	0.009	0.001	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 189: Regression of CAARs on the Seller Financial Condition: Distressed vs Healthy (Announced)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
DISTRESS_Z	0.860	0.891	-0.320	-0.289
	(1.816)	(1.877)	(1.746)	(1.736)
Cons	0.526	0.462	1.585	1.521
	(1.790)	(1.847)	(1.720)	(1.705)
F-Statistic	0.22	0.23	0.03	0.03
R^2	0.002	0.002	0.000	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 190: Regression of CAARs on Seller Financial Condition: Distressed vs Healthy (z"-Score)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
INVOLUNT	-1.268**	-0.973	-1.909***	-1.614**
	(0.543)	(0.594)	(0.626)	(0.645)
Cons	1.305***	1.284**	1.525***	1.504***
	(0.472)	(0.496)	(0.458)	(0.470)
F-Statistic	5.46**	2.68	9.29***	6.26**
R^2	0.001	0.001	0.003	0.002
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 191: Regression of CAARs on the Voluntariness of the Deal

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
PAYOUT	9.250*	9.864*	11.000***	11.613***
	(5.322)	(5.215)	(2.126)	(2.286)
DEBT	-0.327	-0.456	1.016	0.888
	(1.915)	(1.978)	(1.853)	(1.858)
REINVEST	2.176	2.138	0.879	0.842
	(1.513)	(1.598)	(1.392)	(1.385)
Cons	0.926***	0.938***	0.992***	1.004***
	(0.250)	(0.287)	(0.282)	(0.319)
F-Statistic	1.70	1.80	9.07***	8.71***
R^2	0.028	0.028	0.031	0.033
Observations	290	290	290	290

UNKNOWN use of proceeds omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 192: Regression of CAARs on the Intended Use of Proceeds

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
PAYOUT	11.017	11.206*	7.688***	7.877***
	(6.928)	(6.710)	(2.659)	(2.651)
DEBT	0.766	0.810	1.964	2.007
	(1.374)	(1.530)	(2.010)	(1.780)
ZSCORE	-0.036	-0.030	0.053	0.059
	(0.097)	(0.104)	(0.050)	(0.057)
DEBT*ZSCORE	0.001	0.092	-0.322	-0.230
	(0.456)	(0.488)	(0.680)	(0.603)
REINVEST	-0.903	0.708	-5.674*	-4.063
	(3.984)	(4.303)	(3.080)	(3.077)
MTB	-0.078	-0.097	-0.466	-0.484
	(0.335)	(0.373)	(0.286)	(0.314)
REINVEST*MTB	1.364	0.686	2.715**	2.037
	(1.635)	(1.735)	(1.353)	(1.372)
Cons	1.227	1.234	1.961**	1.968**
	(0.921)	(1.034)	(0.873)	(0.968)
F-Statistic	1.27	1.23	3.14***	3.02***
R^2	0.078	0.062	0.089	0.073
Observations	273	273	273	273

UNKNOWN use of proceeds omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 193: Regression of CAARs on the Intended Use of Proceeds and Interaction Terms

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
UNKNOWN	0.298	0.984	0.585	1.271
	(1.491)	(1.981)	(1.709)	(2.007)
PRICE_A	-0.179	-0.381	0.005	-0.198
	(0.738)	(0.996)	(1.311)	(1.443)
Cons	1.354***	1.422*	1.378	1.445
	(0.482)	(0.828)	(1.207)	(1.353)
F-Statistic	0.06	0.30	0.10	0.44
R^2	0.000	0.003	0.001	0.004
Observations	290	290	290	290

Price NOT_ANNOUNCED omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 194: Regression of CAARs on the Announcement of the Transaction Price

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
BOOKGAIN_A	0.798	0.867	0.011	0.080
	(1.725)	(1.788)	(1.623)	(1.740)
Cons	1.189**	1.175**	1.445***	1.431***
	(0.470)	(0.494)	(0.459)	(0.468)
F-Statistic	0.21	0.24	0.00	0.00
R^2	0.001	0.001	0.000	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 195: Regression of CAARs on the Announcement of a Book Effect

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MOTIVE_A	-0.728	-0.939	0.288	0.066
	(0.878)	(0.992)	(0.878)	(0.991)
Cons	1.845***	2.008**	1.221*	1.384
	(0.698)	(0.824)	(0.711)	(0.844)
F-Statistic	0.69	0.89	0.10	0.00
R^2	0.001	0.002	0.000	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 196: Regression of CAARs on the Announcement of the Motive

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
PROCEEDS_A	0.998	0.934	1.386	1.322
	(1.305)	(1.356)	(1.240)	(1.249)
Cons	0.926***	0.938***	0.992***	1.004***
	(0.249)	(0.286)	(0.281)	(0.318)
F-Statistic	0.59	0.48	1.25	1.12
R^2	0.004	0.003	0.008	0.007
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 197: Regression of CAARs on the Announcement of the Intended Use of Proceeds

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
CONSID_A	1.850**	1.545	1.912**	1.607*
	(0.889)	(0.948)	(0.868)	(0.903)
Cons	0.373	0.509	0.536	0.672
	(0.689)	(0.652)	(0.644)	(0.586)
F-Statistic	4.33**	2.66	4.85**	3.17*
R^2	0.015	0.009	0.016	0.011
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 198: Regression of CAARs on the Announcement of the Form of Consideration

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
FIT	-0.027	0.340	-0.538	-0.171
	(0.886)	(0.915)	(0.887)	(0.916)
Cons	1.259**	1.162**	1.576***	1.478***
	(0.555)	(0.585)	(0.535)	(0.547)
F-Statistic	0.00	0.14	0.38	0.03
R^2	0.000	0.000	0.001	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 199: Regression of CAARs on the Strategic Fit Between Target and Buyer

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
FOCUS_NOFIT	-0.827	-0.520	-0.295	0.012
	(1.079)	(1.145)	(1.049)	(1.074)
FOCUS_FIT	-0.107	0.197	-0.204	0.100
	(0.894)	(1.050)	(1.181)	(1.309)
NOFOCUS_FIT	-0.708	-0.022	-1.038	-0.352
	(1.141)	(1.164)	(1.094)	(1.088)
Cons	1.691***	1.434**	1.730***	1.472***
	(0.451)	(0.550)	(0.538)	(0.553)
F-Statistic	0.29	0.10	0.30	0.04
R^2	0.003	0.001	0.002	0.000
Observations	290	290	290	290

NOFOCUS_NOFIT omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 200: Regression of CAARs on Combination of Strategic Fit Between Target and Buyer and Increase in Focus

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MBO	5.727**	6.267**	8.939*	9.479*
	(2.489)	(3.049)	(5.222)	(5.397)
PE	-0.380	-0.311	0.273	0.342
	(0.708)	(0.770)	(0.768)	(0.767)
Cons	1.187**	1.158*	1.079**	1.050*
	(0.593)	(0.615)	(0.520)	(0.537)
F-Statistic	3.17**	2.39*	1.49	1.59
R^2	0.016	0.017	0.039	0.041
Observations	289	289	289	289

STRATEGIC buyer omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 201: Regression of CAARs on the Type of Buyer

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
CASH	1.652*	1.327	1.749**	1.424
	(0.881)	(0.961)	(0.872)	(0.928)
Cons	0.541	0.672	0.692	0.823
	(0.651)	(0.619)	(0.603)	(0.550)
F-Statistic	3.52	1.91	4.03**	2.35
R^2	0.011	0.007	0.013	0.009
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 202: Regression of CAARs on the Form of Consideration

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
CASH	1.820**	1.490	1.905**	1.575*
	(0.911)	(0.984)	(0.902)	(0.951)
OTHER	2.134	2.070	1.980	1.916
	(1.878)	(1.946)	(1.438)	(1.401)
Cons	0.373	0.509	0.536	0.672
	(0.690)	(0.653)	(0.645)	(0.587)
F-Statistic	2.18	1.42	2.50*	1.84
R^2	0.015	0.009	0.016	0.011
Observations	290	290	290	290

UNKNOWN form of payment omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 203: Regression of CAARs on the Form of Consideration (Detailed)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.358***	1.423***	2.502***	2.567***
	(0.456)	(0.537)	(0.702)	(0.745)
LARGE	4.441	4.726*	4.694*	4.980*
	(2.746)	(2.851)	(2.495)	(2.526)
Cons	0.278**	0.211	0.191	0.124
	(0.135)	(0.159)	(0.188)	(0.203)
F-Statistic	5.67***	4.82***	7.98***	7.74***
R^2	0.042	0.043	0.057	0.060
Observations	290	290	290	290

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 204: Regression of CAARs on the Relative Size of the Deal

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
2nd QUARTILE	-1.223	-1.317	-1.324	-1.418
	(1.554)	(1.607)	(1.537)	(1.559)
3rd QUARTILE	-0.505	-0.766	-1.037	-1.298
	(1.546)	(1.604)	(1.460)	(1.468)
4th QUARTILE	0.467	0.236	-0.463	-0.694
	(1.656)	(1.713)	(1.511)	(1.538)
Cons	1.588	1.759	2.152	2.323
	(0.492)	(1.542)	(1.379)	(1.407)
F-Statistic	1.61	1.17	0.47	0.47
R^2	0.007	0.006	0.005	0.006
Observations	289	289	289	289

1st QUARTILE omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 205: Regression of CAARs on Seller Market-to-Book Ratio (Quartile Dummies)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MTB	0.197	0.111	-0.123	-0.209
	(0.507)	(0.525)	(0.467)	(0.475)
Cons	0.799	1.039	1.769	2.009
	(1.579)	(1.635)	(1.478)	(1.505)
F-Statistic	0.15	0.04	0.07	0.19
R^2	0.001	0.000	0.000	0.001
Observations	289	289	289	289

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 206: Regression of CAARs on Seller Market-to-Book Ratio (Continuous)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
STOCK	-0.543	-0.366	-1.112	-0.935
	(1.136)	(1.175)	(1.099)	(1.115)
Cons	1.590	1.471	2.1366**	2.018*
	(1.100)	(1.126)	(1.063)	(1.070)
F-Statistic	0.23	0.10	1.02	0.70
R^2	0.001	0.000	0.005	0.004
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 207: Regression of CAARs on Seller Performance Prospects

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
ROA	0.100***	0.112***	0.092***	0.104***
	(0.034)	(0.036)	(0.024)	(0.024)
Cons	0.734**	0.691**	0.822**	0.779**
	(0.258)	(0.316)	(0.341)	(0.346)
F-Statistic	8.45***	9.80***	14.31***	18.02***
R^2	0.108	0.112	0.080	0.095
Observations	278	278	278	278

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 208: Regression of CAARs on the Seller Profitability

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
QUICKD	1.005	0.955	-0.035	-0.085
	(0.666)	(0.723)	(0.645)	(0.687)
Cons	1.030***	1.095***	1.431***	1.496***
	(0.282)	(0.330)	(0.386)	(0.382)
F-Statistic	2.27	1.75	0.00	0.02
R^2	0.010	0.008	0.000	0.000
Observations	276	276	276	276

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 209: Regression of CAARs on Seller Liquidity (Dummy)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
QUICK	0.004	0.006	0.094**	0.095**
	(0.056)	(0.060)	(0.040)	(0.044)
Cons	1.423***	1.467***	1.264***	1.308***
	(0.295)	(0.324)	(0.310)	(0.322)
F-Statistic	0.01	0.01	5.40**	4.70**
R^2	0.000	0.000	0.014	0.013
Observations	276	276	276	276

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 210: Regression of CAARs on Seller Liquidity

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
2nd QUARTILE	0.131	-0.661	-0.470	-1.262
	(1.017)	(1.088)	(0.974)	(1.061)
3rd QUARTILE	-1.864**	-2.020**	-2.316***	-2.472***
	(0.731)	(0.814)	(0.766)	(0.812)
4th QUARTILE	-0.856	-1.234	-0.812	-1.220
	(0.894)	(1.017)	(1.009)	(1.026)
Cons	2.116***	2.500***	2.397***	2.781***
	(0.702)	(0.775)	(0.705)	(0.753)
F-Statistic	4.72***	2.93**	4.94***	3.86***
R^2	0.026	0.019	0.027	0.026
Observations	277	277	277	277

1st QUARTILE omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 211: Regression of CAARs on Seller Leverage (Quartile Dummies)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
DE	0.007**	-0.004	-0.007**	-0.018***
	(0.003)	(0.003)	(0.003)	(0.003)
Cons	1.459***	1.526***	1.515***	1.581***
	(0.298)	(0.327)	(0.317)	(0.331)
F-Statistic	5.80**	1.52	5.42**	45.19***
R^2	0.000	0.000	0.000	0.002
Observations	277	277	277	277

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 212: Regression of CAARs on Seller Leverage

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
ZSCORE	0.039	0.043	0.084**	0.088**
	(0.063)	(0.069)	(0.033)	(0.037)
Cons	1.259***	1.265***	1.043***	1.049***
	(0.366)	(0.396)	(0.357)	(0.362)
F-Statistic	0.38	0.38	6.68**	5.64**
R^2	0.003	0.003	0.014	0.015
Observations	273	273	273	273

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 213: Regression of CAARs on Seller Probability of Bankruptcy

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
RECESSION	1.649*	1.044	0.472	-0.133
	(0.995(	(1.115)	(0.976)	(1.064)
Cons	0.872	1.003*	1.337**	1.468***
	(0.529(	(0.544)	(0.515)	(0.516)
F-Statistic	2.75*	0.88	0.23	0.02
R^2	0.008	0.003	0.001	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 214: Regression of CAARs on Economic Environment

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
PLANT	-0.486	-0.787	-0.419	-0.721
	(1.245)	(1.213)	(1.484)	(1.341)
PROPERTY	-0.250	-0.102	-0.240	-0.092
	(1.270)	(1.232)	(1.187)	(1.098)
RIGHTS	-0.582	-0.993	-1.300	-1.710*
	(1.229)	(1.134)	(1.022)	(1.001)
SUBSIDIARY	0.926	1.023	1.012	1.109
	(1.285)	(1.289)	(1.167)	(1.153)
UNKNOWN	-1.333	-1.899	-1.868	-2.434*
	(1.175)	(1.227)	(1.136)	(1.404)
Cons	0.881	0.850	1.053	1.022
	(1.175)	(1.118)	(1.003)	(0.934)
F-Statistic	6.71***	3.21***	3.80***	3.79***
R^2	0.006	0.007	0.008	0.001
Observations	290	290	290	290

SUBSIDIARY omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 215: Regression of CAARs on the Type of Asset Sold

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
UNKNOWN	-46.295	-42.326	-39.322	-35.353
	(34.075)	(30.595)	(27.434)	(23.954)
DECREASE	-0.715	-0.624	-1.972**	-1.880**
	(0.920)	(0.961)	(0.828)	(0.807)
INCREASE	-0.892	-0.832	-1.913**	-1.853*
	(0.662)	(0.795)	(0.746)	(0.965)
Cons	1.742***	1.689***	2.133***	2.080***
	(0.379)	(0.456)	(0.427)	(0.469)
F-Statistic	1.29	1.04	3.81**	3.08**
R^2	0.249	0.189	0.197	0.153
Observations	290	290	290	290

NO CHANGE in beta omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 216: Regression of CAARs on the Change in the Seller's Systematic Risk

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
DIRECT	0.022	0.106	-0.056	0.028
	(0.775)	(0.831)	(0.777)	(0.826)
Cons	1.237**	1.169**	1.485***	1.417**
	(0.482)	(0.540)	(0.513)	(0.578)
F-Statistic	0.00	0.02	0.01	0.00
R^2	0.000	0.000	0.000	0.000
Observations	290	290	290	290

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 217: Regression of CAARs on Seller/Target Degree of Relationship

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	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.507***	1.588***	2.709***	2.790***
	(0.510)	(0.589)	(0.698)	(0.734)
LARGE	6.828***	7.465***	5.009**	5.646***
	(1.900)	(2.051)	(2.035)	(1.967)
MTB	0.539	0.524	0.465	0.450
	(0.481)	(0.474)	(0.423)	(0.409)
STOCK	-1.165*	-1.120*	-1.166*	-1.121*
	(0.595)	(0.644)	(0.664)	(0.677)
ROA	0.068*	0.076*	0.046	0.054
	(0.040)	(0.041)	(0.036)	(0.035)
QUICK	-0.174*	-0.185	0.009	-0.002
	(0.100)	(0.124)	(0.091)	(0.096)
DE	-0.220	-0.224	-0.216	-0.220
	(0.217)	(0.214)	(0.191)	(0.185)
ZSCORE	0.020	0.017	-0.024	-0.027
	(0.128)	(0.152)	(0.119)	(0.124)
Cons	-0.282	-0.362	-0.143	-0.223
	(0.634)	(0.662)	(0.698)	(0.693)
F-Statistic	10.40***	4.09***	12.09***	14.80***
R^2	0.318	0.312	0.195	0.220
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 218: Multiple Regression of CAARs on Seller Related Variables and Relative Size

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.258***	1.335**	2.465***	2.542***
	(0.466)	(0.561)	(0.690)	(0.731)
LARGE	6.608***	7.241***	4.794**	5.427***
	(1.851)	(2.015)	(1.998)	(1.925)
MTB	0.069**	0.045	0.005	-0.019
	(0.032)	(0.033)	(0.033)	(0.032)
STOCK	-1.138*	-1.093*	-1.139*	-1.094
	(0.597)	(0.648)	(0.666)	(0.681)
ROA	0.070*	0.078*	0.047	0.056
	(0.040)	(0.042)	(0.037)	(0.036)
QUICK	-0.269***	-0.281***	-0.084	-0.097*
	(0.060)	(0.080)	(0.055)	(0.058)
ZSCORE	0.130*	0.129	0.083	0.083
	(0.069)	(0.092)	(0.058)	(0.064)
CONS	0.297	0.228	0.425	0.356
	(0.458)	(0.522)	(0.574)	(0.565)
F-Statistic	5.39***	4.65***	18.73***	20.17***
R^2	0.302	0.298	0.181	0.206
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 219: Multiple Regression of CAARs on Seller Related Variables and Relative Size (Without Seller Leverage)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.286***	1.353**	2.467***	2.534***
	(0.468)	(0.560)	(0.685)	(0.727)
LARGE	6.505***	7.174***	4.787**	5.456***
	(1.844)	(2.007)	(1.988)	(1.915)
STOCK	-1.165*	-1.110*	-1.141*	-1.087
	(0.603)	(0.651)	(0.666)	(0.680)
ROA	0.071*	0.079*	0.047	0.055
	(0.040)	(0.042)	(0.037)	(0.036)
QUICK	-0.248***	-0.268***	-0.083	-0.103*
	(0.055)	(0.073)	(0.051)	(0.059)
ZSCORE	0.113*	0.118	0.082	0.087
	(0.064)	(0.086)	(0.057)	(0.066)
CONS	0.522	0.375	0.441	0.294
	(0.467)	(0.517)	(0.566)	(0.555)
F-Statistic	6.51***	5.42***	21.20***	20.85***
R^2	0.294	0.296	0.181	0.205
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 220: Multiple Regression of CAARs on Seller Related Variables and Relative Size (Basic Model)

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.278***	1.333**	2.459***	2.516***
	(0.466)	(0.557)	(0.669)	(0.726)
LARGE	6.525***	7.221***	4.805**	5.501***
	(1.846)	(2.001)	(1.974)	(1.900)
STOCK	-1.170*	-1.123*	-1.146*	-1.099
	(0.608)	(0.657)	(0.667)	(0.683)
ROA	0.071*	0.078*	0.047	0.054
	(0.041)	(0.042)	(0.037)	(0.036)
QUICK	-0.251***	-0.275***	-0.086	-0.110*
	(0.056)	(0.074)	(0.055)	(0.062)
ZSCORE	0.116*	0.125	0.085	0.094
	(0.067)	(0.088)	(0.060)	(0.068)
IFOCUS_S	0.167	0.392	0.155	0.380
	(0.526)	(0.563)	(0.564)	(0.574)
CONS	0.441	0.183	0.366	0.108
	(0.483)	(0.530)	(0.649)	(0.606)
F-Statistic	5.57***	4.76***	18.84***	19.01***
R^2	0.295	0.297	0.181	0.207
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 221: Multiple Regression of CAARs on an Increase in Focus Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.242**	1.317**	2.482***	2.557***
	(0.479)	(0.568)	(0.702)	(0.747)
LARGE	6.400***	7.122***	4.862**	5.584***
	(1.804)	(1.968)	(2.004)	(1.933)
STOCK	-1.134*	-1.100*	-1.167*	-1.133
	(0.598)	(0.649)	(0.672)	(0.691)
ROA	0.070*	0.077**	0.047	0.055
	(0.040)	(0.042)	(0.037)	(0.036)
QUICK	-0.250***	-0.274***	-0.086	-0.110*
	(0.057)	(0.075)	(0.055)	(0.061)
ZSCORE	0.117*	0.126	0.084	0.093
	(0.067)	(0.089)	(0.060)	(0.068)
IFOCUS_S	-0.517	-0.593	0.189	0.112
	(1.437)	(1.514)	(1.344)	(1.358)
NO2	-0.409*	-0.425	0.124	0.109
	(0.217)	(0.267)	(0.310)	(0.298)
IFOCUS_S*NO2	0.303	0.393	-0.043	0.047
	(0.350)	(0.391)	(0.383)	(0.385)
Cons	1.499**	1.283	0.046	-0.169
	(0.734)	(0.833)	(1.003)	(0.969)
F-Statistic	4.43***	3.79***	14.54***	14.73***
R^2	0.300	0.302	0.182	0.208
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 222: Multiple Regression of CAARs on an Increase in Focus, the Degree of Diversification and an Interaction Term of Both Variables Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.319***	1.377**	2.483***	2.541***
	(0.479)	(0.571)	(0.696)	(0.738)
LARGE	6.623***	7.260***	4.843**	5.480***
	(1.885)	(2.060)	(2.044)	(1.970)
STOCK	-1.170*	-1.114*	-1.144*	-1.088
	(0.601)	(0.651)	(0.667)	(0.681)
ROA	0.072*	0.080*	0.048	0.055
	(0.040)	(0.041)	(0.036)	(0.036)
QUICK	-0.248***	-0.268***	-0.083	-0.103*
	(0.054)	(0.072)	(0.052)	(0.059)
ZSCORE	0.111*	0.117	0.081	0.087
	(0.063)	(0.085)	(0.057)	(0.066)
MAJ_RES	-0.612	-0.447	-0.293	-0.127
	(1.021)	(1.042)	(1.039)	(1.005)
Cons	0.589	0.423	0.473	0.307
	(0.461)	(0.515)	(0.579)	(0.575)
F-Statistic	5.67***	4.70***	18.98***	18.26***
R^2	0.296	0.296	0.181	0.205
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 223: Multiple Regression of CAARs on a Major Restructuring Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.127**	1.123*	2.299***	2.295***
	(0.477)	(0.563)	(0.712)	(0.753)
LARGE	6.360***	6.964***	4.633**	5.237***
	(1.808)	(1.968)	(1.979)	(1.905)
STOCK	-1.176*	-1.127*	-1.154*	-1.104
	(0.606)	(0.652)	(0.668)	(0.679)
ROA	0.070*	0.077*	0.046	0.053
	(0.041)	(0.042)	(0.037)	(0.036)
QUICK	-0.245***	-0.264***	-0.080	-0.099*
	(0.053)	(0.070)	(0.050)	(0.057)
ZSCORE	0.116*	0.122	0.085	0.091
	(0.062)	(0.083)	(0.056)	(0.063)
FOREIGN	-0.547	-0.792*	-0.576	-0.820
	(0.421)	(0.472)	(0.537)	(0.551)
Cons	0.833	0.824	0.768	0.759
	(0.596)	(0.633)	(0.673)	(0.663)
F-Statistic	5.71***	4.76***	19.00***	18.60***
R^2	0.297	0.301	0.184	0.201
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 224: Multiple Regression of CAARs on Origin of Divested Asset: Foreign vs Domestic Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.177***	1.213**	2.437***	2.473***
	(0.477)	(0.564)	(0.694)	(0.760)
LARGE	6.407***	7.048***	4.760**	5.401***
	(1.834)	(1.992)	(2.008)	(1.932)
STOCK	-1.098*	-1.024	-1.123*	-1.049
	(0.603)	(0.651)	(0.660)	(0.686)
ROA	0.071*	0.079*	0.047	0.055
	(0.040)	(0.041)	(0.037)	(0.036)
QUICK	-0.247***	-0.267***	-0.082	-0.102*
	(0.056)	(0.074)	(0.052)	(0.060)
ZSCORE	0.119*	0.125	0.084	0.090
	(0.065)	(0.088)	(0.057)	(0.066)
NON_EU	-0.674*	-0.870*	-0.183	-0.379
	(0.369)	(0.444)	(0.481)	(0.608)
Cons	0.640	0.527	0.473	0.360
	(0.473)	(0.519)	(0.587)	(0.567)
F-Statistic	5.73***	4.83***	18.46***	18.64***
R^2	0.297	0.300	0.181	0.206
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 225: Multiple Regression of CAARs on Origin of Divested Asset: Non-European vs European Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.144**	1.224**	2.287***	2.367***
	(0.457)	(0.537)	(0.674)	(0.708)
LARGE	6.090***	6.790***	4.846**	5.545***
	(1.853)	(2.017)	(2.037)	(1.990)
STOCK	-1.005*	-0.935	-0.987	-0.917
	(0.596)	(0.642)	(0.665)	(0.672)
ROA	0.085**	0.095**	0.058	0.068*
	(0.038)	(0.039)	(0.035)	(0.035)
QUICK	-0.194***	-0.221***	-0.019	-0.046
	(0.057)	(0.057)	(0.039)	(0.039)
DISTRESS_A	4.501	5.586*	0.121	1.206
	(3.325)	(3.358)	(1.419)	(1.419)
Cons	0.718	0.575	0.567	0.423
	(0.442)	(0.482)	(0.536)	(0.537)
F-Statistic	5.79***	6.31***	28.52***	33.18***
R^2	0.305	0.313	0.185	0.214
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 226: Multiple Regression of CAARs on Seller Financial Condition: Distressed vs Healthy (Announced) Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.146**	1.189**	2.346***	2.389***
	(0.462)	(0.545)	(0.681)	(0.723)
LARGE	6.237***	6.828***	4.519**	5.110***
	(1.836)	(1.984)	(1.943)	(1.870)
STOCK	-0.983	-0.843	-0.923	-0.782
	(0.663)	(0.716)	(0.698)	(0.735)
ROA	0.083**	0.094**	0.059*	0.070**
	(0.038)	(0.039)	(0.033)	(0.032)
QUICK	-0.154***	-0.172***	-0.017	-0.034
	(0.049)	(0.049)	(0.036)	(0.036)
DISTRESS_Z	0.135	0.529	0.530	0.924
	(0.797)	(0.877)	(0.926)	(0.895)
Cons	0.668	0.399	0.404	0.135
	(0.570)	(0.621)	(0.591)	(0.648)
F-Statistic	4.52***	4.55***	20.51***	20.18***
R^2	0.286	0.290	0.178	0.205
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 227: Multiple Regression of CAARs on Seller Financial Condition: Distressed vs Healthy (z''-score) Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.268***	1.364**	2.425***	2.521***
	(0.475)	(0.568)	(0.691)	(0.733)
LARGE	6.487***	7.186***	4.744**	5.443***
	(1.846)	(2.010)	(1.991)	(1.918)
STOCK	-1.169*	-1.107*	-1.151*	-1.090
	(0.606)	(0.654)	(0.670)	(0.683)
ROA	0.071*	0.079*	0.048	0.056
	(0.041)	(0.042)	(0.037)	(0.036)
QUICK	-0.247***	-0.268***	-0.081	-0.102*
	(0.055)	(0.073)	(0.051)	(0.059)
ZSCORE	0.112*	0.119	0.080	0.087
	(0.064)	(0.086)	(0.057)	(0.066)
INVOLUNT	-0.233	0.153	-0.550	-0.165
	(0.342)	(0.434)	(0.481)	(0.509)
Cons	0.543	0.361	0.490	0.308
	(0.480)	(0.532)	(0.583)	(0.571)
F-Statistic	5.67***	4.63***	18.93***	18.07***
R^2	0.294	0.296	0.181	0.205
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 228: Multiple Regression of CAARs on the Voluntariness of the Deal Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.165*	1.277*	2.703***	2.816***
	(0.623)	(0.716)	(0.810)	(0.889)
LARGE	6.330***	7.030***	4.915**	5.615***
	(1.772)	(2.003)	(2.046)	(2.050)
STOCK	-0.964*	-0.906	-1.052	-0.994
	(0.578)	(0.630)	(0.674)	(0.688)
ROA	0.076*	0.084*	0.054	0.063*
	(0.042)	(0.043)	(0.038)	(0.037)
QUICK	-0.327***	-0.349***	-0.123**	-0.146**
	(0.073)	(0.081)	(0.052)	(0.059)
ZSCORE	0.086	0.091	0.073	0.078
	(0.064)	(0.087)	(0.061)	(0.072)
PAYOUT	11.052**	11.262**	5.014***	5.224***
	(5.123)	(4.354)	(1.892)	(1.522)
DEBT	-0.612	-0.556	0.133	0.189
	(0.751)	(0.891)	(0.986)	(1.038)
REINVEST	0.101	-0.149	-1.486	-1.736
	(1.271)	(1.336)	(1.289)	(1.265)
Cons	0.618	0.471	0.477	0.330
	(0.472)	(0.522)	(0.562)	(0.554)
F-Statistic	5.36***	5.25***	15.82***	41.99***
R^2	0,334	0,330	0,198	0,226
Observations	272	272	272	272

SMALL deals omitted

UNKNOWN use of proceeds omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 229: Multiple Regression of CAARs on the Intended Use of Proceeds Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.100*	1.206*	2.722***	2.828***
	(0.623)	(0.715)	(0.807)	(0.882)
LARGE	6.400***	7.074***	4.864**	5.538***
	(1.783)	(2.000)	(2.035)	(2.042)
STOCK	-0.920	-0.892	-0.951	-0.922
	(0.600)	(0.654)	(0.675)	(0.697)
ROA	0.075*	0.084*	0.056	0.604*
	(0.041)	(0.043)	(0.037)	(0.037)
QUICK	-0.384***	-0.390***	-0.172**	-0.178**
	(0.088)	(0.101)	(0.077)	(0.077)
ZSCORE	0.137*	0.127	0.120	0.110
	(0.076)	(0.104)	(0.081)	(0.086)
PAYOUT	11.566**	11.661**	5.491**	5.587***
	(5.364)	(4.522)	(2.157)	(1.600)
DEBT	-0.363	-0.516	1.052	0.901
	(1.157)	(1.358)	(1.766)	(1.599)
DEBT*ZSCORE	-0.107	-0.007	-0.448	-0.349
	(0.325)	(0.396)	(0.583)	(0.492)
REINVEST	-0.518	-0.608	-1.979	-2.069
	(1.440)	(1.517)	(1.495)	(1.480)
MTB	-0.107	-0.090	-0.159	-0.142
	(0.172)	(0.190)	(0.205)	(0.207)
REINVEST*MTB	0.192	0.149	0.191	0.148
	(0.187)	(0.206)	(0.220)	(0.221)
Cons	0.710	0.586	0.642	0.517
	(0.549)	(0.604)	(0.657)	(0.706)
F-Statistic	4.11***	4.10***	11.68***	21.35***
R^2	0.345	0.335	0.204	0.229
Observations	272	272	272	272

SMALL deals omitted

UNKNOWN use of proceeds omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 230: Multiple Regression of CAARs on the Intended Use of Proceeds and Interaction Terms Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.302***	1.560***	2.533***	2.791***
	(0.498)	(0.595)	(0.701)	(0.746)
LARGE	6.516***	7.236***	4.880**	5.600***
	(1.857)	(2.018)	(1.978)	(1.898)
STOCK	-1.170*	-1.067	-1.232**	-1.128
	(0.616)	(0.660)	(0.679)	(0.686)
ROA	0.071*	0.080*	0.047	0.055
	(0.041)	(0.041)	(0.037)	(0.036)
QUICK	-0.248***	-0.277***	-0.085	-0.113*
	(0.054)	(0.074)	(0.052)	(0.060)
ZSCORE	0.114*	0.131	0.085	0.102
	(0.066)	(0.088)	(0.058)	(0.068)
UNKNOWN	0.158	-0.087	1.860*	1.615
	(0.874)	(1.059)	(1.118)	(0.122)
PRICE_A	0.019	-0.905	0.736	-0.187
	(0.566)	(0.632)	(0.723)	(0.756)
Cons	0.488	0.946	-0.285	0.173
	(0.520)	(0.604)	(0.670)	(0.711)
F-Statistic	5.71***	5.87***	16.22***	16.68***
R^2	0.294	0.300	0.189	0.216
Observations	272	272	272	272

SMALL deals omitted

Price NOT_ANNOUNCED omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 231: Multiple Regression of CAARs on the Announcement of the Transaction Price Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.510***	1.604***	2.503***	2.596***
	(0.499)	(0.593)	(0.715	(0.764)
LARGE	6.734***	7.430***	4.823**	5.519***
	(1.857)	(2.030)	(2.012	(1.954)
STOCK	-1.179**	-1.126*	-1.144*	-1.091
	(0.598)	(0.646)	(0.666	(0.679)
ROA	0.070*	0.078*	0.047	0.055
	(0.040)	(0.041)	(0.037	(0.036)
QUICK	-0.243***	-0.263***	-0.082	-0.102*
	(0.057)	(0.077)	(0.052	(0.060)
ZSCORE	0.111	0.116	0.082	0.087
	(0.068)	(0.090)	(0.057	(0.067)
PURPOSE_A	-1.112*	-1.242*	-0.179	-0.308
	(0.610)	(0.729)	(0.618	(0.736)
Cons	1.373**	1.324*	0.578	0.529
	(0.576)	(0.696)	(0.701)	(0.765)
F-Statistic	5.60***	4.80***	17.91***	17.42***
R^2	0.302	0.303	0.181	0.206
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 232: Multiple Regression of CAARs on the Announcement of the Motive Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.341**	1.431**	2.624***	2.714***
	(0.570)	(0.672)	(0.784)	(0.861)
LARGE	6.608***	7.319***	5.079**	5.791***
	(1.858)	(2.066)	(2.056)	(2.055)
STOCK	-1.164*	-1.110*	-1.141*	-1.086
	(0.605)	(0.653)	(0.668)	(0.681)
ROA	0.071*	0.079*	0.046	0.054
	(0.041)	(0.042)	(0.037)	(0.037)
QUICK	-0.246***	-0.265***	-0.078	-0.098
	(0.056)	(0.074)	(0.052)	(0.059)
ZSCORE	0.113*	0.117	0.080	0.085
	(0.064)	(0.086)	(0.057)	(0.066)
PROCEEDS_A	-0.159	-0.224	-0.452	-0.518
	(0.646)	(0.750)	(0.787)	(0.848)
Cons	0.549	0.412	0.517	0.380
	(0.448)	(0.502)	(0.558)	(0.550)
F-Statistic	5.61***	4.72***	16.77***	16.63
R^2	0.294	0.296	0.182	0.207
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 233: Multiple Regression of CAARs on the Announcement of the Intended Use of Proceeds Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.234**	1.298**	2.525***	2.590***
	(0.534)	(0.607)	(0.729)	(0.747)
LARGE	6.505***	7.174***	4.787**	5.456***
	(1.846)	(2.010)	(1.993)	(1.919)
STOCK	-1.173*	-1.119*	-1.132*	-1.077
	(0.616)	(0.664)	(0.677)	(0.692)
ROA	0.071*	0.079*	0.048	0.056
	(0.040)	(0.041)	(0.036)	(0.036)
QUICK	-0.247***	-0.267***	-0.083	-0.103*
	(0.055)	(0.073)	(0.052)	(0.059)
ZSCORE	0.114*	0.119	0.081	0.087
	(0.064)	(0.086)	(0.057)	(0.066)
BOOKGAIN_A	0.405	0.424	-0.457	-0.438
	(1.447)	(1.514)	(1.479)	(1.593)
Cons	0.505	0.356	0.461	0.313
	(0.451)	(0.502)	(0.557)	(0.545)
F-Statistic	5.98***	5.02***	18.93***	18.74***
R^2	0.295	0.296	0.181	0.206
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 234: Multiple Regression of CAARs on the Announcement of a Book Effect Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.243***	1.324**	2.430***	2.511***
	(0.472)	(0.563)	(0.689)	(0.726)
LARGE	6.443***	7.132***	4.735**	5.423***
	(1.829)	(1.996)	(1.980)	(1.910)
STOCK	-1.153*	-1.102*	-1.132*	-1.081
	(0.602)	(0.651)	(0.668)	(0.680)
ROA	0.072*	0.079*	0.048	0.055
	(0.040)	(0.041)	(0.036)	(0.036)
QUICK	-0.250***	-0.269***	-0.085*	-0.104*
	(0.054)	(0.072)	(0.050)	(0.058)
ZSCORE	0.111*	0.117	0.080	0.086
	(0.062)	(0.085)	(0.055)	(0.064)
CONSID_A	0.693	0.475	0.582	0.364
	(0.501)	(0.552)	(0.575)	(0.583)
Cons	0.209	0.160	0.178	0.129
	(0.558)	(0.592)	(0.696)	(0.652)
F-Statistic	5.67***	4.67***	19.67***	18.47***
R^2	0.299	0.298	0.184	0.207
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 235: Multiple Regression of CAARs on the Announcement of the Form of Consideration Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.280***	1.360**	2.454***	2.534***
	(0.474)	(0.562)	(0.690)	(0.731)
LARGE	0.649***	7.193***	4.754**	5.456***
	(1.852)	(2.013)	(2.002)	(1.929)
STOCK	-1.174**	-1.098*	-1.163*	-1.087
	(0.591)	(0.640)	(0.657)	(0.669)
ROA	0.072*	0.079*	0.048	0.055
	(0.040)	(0.042)	(0.037)	(0.036)
QUICK	-0.248***	-0.267***	-0.083	-0.103*
	(0.055)	(0.072)	(0.051)	(0.059)
ZSCORE	0.113*	0.119	0.082	0.087
	(0.064)	(0.086)	(0.057)	(0.066)
FIT	-0.144	0.194	-0.337	0.001
	(0.641)	(0.652)	(0.710)	(0.721)
Cons	0.565	0.317	0.542	0.293
	(0.459)	(0.513)	(0.582)	(0.565)
F-Statistic	6.18***	4.77***	19.54***	18.06***
R^2	0.294	0.296	0.182	0.205
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 236: Multiple Regression of CAARs on the Strategic Fit Between Target and Buyer Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.247***	1.364**	2.426***	2.542***
	(0.454)	(0.553)	(0.679)	(0.728)
LARGE	6.482***	7.272***	4.745**	5.535***
	(1.886)	(2.024)	(1.996)	(1.913)
STOCK	-1.174*	-1.113*	-1.163*	-1.102
	(0.601)	(0.649)	(0.660)	(0.674)
ROA	0.072*	0.077*	0.048	0.054
	(0.041)	(0.042)	(0.036)	(0.036)
QUICK	-0.252***	-0.273***	-0.087	-0.108*
	(0.057)	(0.074)	(0.056)	(0.061)
ZSCORE	0.118*	0.124	0.086	0.092
	(0.069)	(0.089)	(0.063)	(0.069)
FOCUS_NOFIT	0.034	0.519	0.025	0.510
	(0.574)	(0.629)	(0.577)	(0.594)
FOCUS_FIT	0.196	0.485	-0.046	0.243
	(0.808)	(0.925)	(1.134)	(1.233)
NOFOCUS_FIT	-0.366	0.442	-0.531	0.278
	(0.974)	(0.965)	(0.977)	(0.925)
Cons	0.544	0.053	0.526	0.034
	(0.420)	(0.501)	(0.675)	(0.640)
F-Statistic	5.00***	3.74***	15.65***	14.99***
R^2	0.295	0.298	0.182	0.207
Observations	272	272	272	272

SMALL deals omitted

NOFOCUS_NOFIT omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 237: Multiple Regression of CAARs on Combination of Strategic Fit Between Target and Buyer and Increase in Focus Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.278***	1.385**	2.182***	2.289***
	(0.485)	(0.585)	(0.662)	(0.729)
LARGE	6.376***	7.021***	4.537**	5.183***
	(1.864)	(1.967)	(2.042)	(1.921)
STOCK	-1.157*	-1.126*	-1.024	-0.992
	(0.600)	(0.646)	(0.658)	(0.676)
ROA	0.073*	0.081**	0.054	0.061*
	(0.040)	(0.041)	(0.036)	(0.035)
QUICK	-0.227***	-0.245***	-0.088	-0.106*
	(0.054)	(0.072)	(0.053)	(0.062)
ZSCORE	0.096	0.010	0.085	0.089
	(0.061)	(0.083)	(0.058)	(0.067)
MBO	3.109	3.432	2.483	2.807
	(2.490)	(2.951)	(2.507)	(2.813)
PE	-1.002	-1.024	-0.195	-0.218
	(0.655)	(0.710)	(0.678)	(0.694)
Cons	0.732	0.607	0.336	0.211
	(0.566)	(0.609)	(0.641)	(0.638)
F-Statistic	5.54***	4.63***	20.72***	18.82***
R^2	0.314	0.314	0.191	0.216
Observations	271	271	271	271

SMALL deals omitted

STRATEGIC omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 238: Multiple Regression of CAARs on Type of Buyer Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.250***	1.330**	2.438***	2.518***
	(0.470)	(0.562)	(0.691)	(0.728)
LARGE	6.425***	7.123***	4.722*	5.419***
	(1.826)	(1.994)	(1.988)	(1.917)
STOCK	-1.154*	-1.103*	-1.133*	-1.082
	(0.601)	(0.651)	(0.668)	(0.681)
ROA	0.073*	0.080*	0.049	0.056
	(0.040)	(0.042)	(0.037)	(0.036)
QUICK	-0.251***	-0.270***	-0.085*	-0.104*
	(0.055)	(0.072)	(0.051)	(0.059)
ZSCORE	0.111*	0.117	0.080	0.086
	(0.063)	(0.085)	(0.055)	(0.065)
CASH	0.599	0.385	0.486	0.272
	(0.517)	(0.567)	(0.596)	(0.609)
Cons	0.273	0.215	0.240	0.181
	(0.536)	(0.570)	(0.688)	(0.644)
F-Statistic	5.63***	4.64***	20.25***	18.69***
R^2	0.298	0.297	0.183	0.206
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 239: Multiple Regression of CAARs on the Form of Consideration Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.244***	1.325**	2.432***	2.513***
	(0.474)	(0.565)	(0.690)	(0.727)
LARGE	6.457***	7.149***	4.752**	5.444***
	(1.830)	(1.998)	(1.988)	(1.918)
STOCK	-1.154*	-1.103*	-1.133*	-1.082
	(0.602)	(0.652)	(0.669)	(0.682)
ROA	0.071*	0.079*	0.047	0.055
	(0.040)	(0.041)	(0.037)	(0.036)
QUICK	-0.249***	-0.269***	-0.084*	-0.103*
	(0.054)	(0.072)	(0.051)	(0.059)
ZSCORE	0.111*	0.117	0.081	0.087
	(0.063)	(0.085)	(0.055)	(0.064)
CASH	0.669	0.444	0.552	0.327
	(0.524)	(0.578)	(0.605)	(0.618)
OTHER	0.927	0.778	0.879	0.730
	(1.130)	(1.127)	(1.128)	(1.025)
Cons	0.210	0.161	0.180	0.131
	(0.558)	(0.592)	(0.698)	(0.654)
F-Statistic	4.96***	4.10***	16.75***	15.90***
R^2	0.299	0.298	0.184	0.207
Observations	272	272	272	272

SMALL deals omitted

UNKNOWN form of payment omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 240: Multiple Regression of CAARs on the Form of Consideration (Detailed) Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.372***	1.400**	2.468***	2.496***
	(0.461)	(0.566)	(0.681)	(0.736)
LARGE	6.490***	7.166***	4.786**	5.462***
	(1.829)	(1.998)	(1.989)	(1.917)
STOCK	-0.980	-1.009	-1.139*	-1.167*
	(0.595)	(0.666)	(0.660)	(0.683)
ROA	0.068*	0.077*	0.047	0.057
	(0.041)	(0.042)	(0.037)	(0.036)
QUICK	-0.246***	-0.267***	-0.083	-0.103*
	(0.055)	(0.073)	(0.051)	(0.059)
ZSCORE	0.116*	0.120	0.082	0.086
	(0.064)	(0.086)	(0.057)	(0.066)
RECESSION	0.798	0.438	0.011	-0.349
	(0.685)	(0.783)	(0.764)	(0.827)
Cons	0.205	0.200	0.437	0.433
	(0.476)	(0.562)	(0.592)	(0.610)
F-Statistic	5.78***	4.61***	18.11***	18.03***
R^2	0.299	0.297	0.181	0.206
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 241: Multiple Regression of CAARs on Economic Environment Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.177**	1.216**	2.382***	2.421***
	(0.485)	(0.573)	(0.717)	(0.751)
LARGE	6.568***	7.162***	4.823**	5.418***
	(1.860)	(2.028)	(2.024)	(1.941)
STOCK	-1.084*	-1.062	-1.082	-1.059
	(0.599)	(0.652)	(0.664)	(0.685)
ROA	0.072*	0.079*	0.048	0.056
	(0.040)	(0.042)	(0.037)	(0.036)
QUICK	-0.233***	-0.567***	-0.071	-0.095
	(0.053)	(0.072)	(0.052)	(0.059)
ZSCORE	0.097	0.106	0.071	0.080
	(0.063)	(0.085)	(0.057)	(0.066)
PLANT	-1.191*	-1.408	-0.757	-0.974
	(0.698)	(0.860)	(1.302)	(1.250)
PROPERTY	-0.116	-0.769	-0.948	-0.602
	(0.802)	(0.873)	(0.821)	(0.836)
RIGHTS	-0.900	-1.180*	-1.571***	-1.851***
	(0.779)	(0.619)	(0.586)	(0.652)
SUBSIDIARY	-0.698	-0.451	-0.748	-0.501
	(0.609)	(0.661)	(0.664)	(0.674)
UNKNOWN	-0.836*	-1.255*	-1.055	-1.474
	(0.446)	(0.652)	(0.706)	(1.133)
Cons	1.075*	0.835	0.990	0.750
	(0.632)	(0.700)	(0.740)	(0.730)
F-Statistic	6.48***	3.91***	13.04***	15.17***
R^2	0.301	0.301	0.187	0.211
Observations	272	272	272	272

SMALL deals omitted

BU omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 242: Multiple Regression of CAARs on the Type of Asset Sold Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.282***	1.344**	2.488***	2.550***
	(0.475)	(0.568)	(0.683)	(0.735)
LARGE	6.518***	7.190***	4.707**	5.379***
	(1.852)	(2.012)	(1.984)	(1.911)
STOCK	-1.168*	-0.112*	-1.119*	-1.062
	(0.607)	(0.655)	(0.666)	(0.686)
ROA	0.072*	0.080*	0.045	0.053
	(0.041)	(0.042)	(0.037)	(0.036)
QUICK	-0.250***	-0.281***	-0.067	-0.088
	(0.058)	(0.075)	(0.055)	(0.062)
ZSCORE	0.114*	0.119	0.078	0.083
	(0.065)	(0.087)	(0.058)	(0.067)
DECREASE	0.224	0.335	-1.333*	-1.221
	(0.775)	(0.767)	(0.805)	(0.739)
INCREASE	0.126	0.090	-0.834	-0.870
	(0.569)	(0.689)	(0.827)	(1.061)
Cons	0.483	0.326	0.685	0.529
	(0.465)	(0.521)	(0.580)	(0.571)
F-Statistic	4.86***	4.04***	16.24***	15.67***
R^2	0.294	0.296	0.189	0.212
Observations	272	272	272	272

SMALL deals omitted

NO CHANGE omitted, UNKNWON omitted because of collinearity.

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 243: Multiple Regression of CAARs on the Change in the Seller's Systematic Risk Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.377***	1.453**	0.652***	2.727***
	(0.498)	(0.597)	(0.728)	(0.794)
LARGE	6.583***	7.259***	4.943**	5.619***
	(1.871)	(2.039)	(1.977)	(1.915)
STOCK	-1.161*	-1.106*	-1.134*	-1.079
	(0.604)	(0.652)	(0.662)	(0.680)
ROA	0.071*	0.079*	0.048	0.055
	(0.040)	(0.042)	(0.037)	(0.036)
QUICK	-0.251***	-0.271***	-0.089*	-0.110*
	(0.054)	(0.073)	(0.052)	(0.059)
ZSCORE	0.118*	0.123	0.091	0.097
	(0.065)	(0.086)	(0.058)	(0.067)
DIRECT	-0.384	-0.419	-0.775	-0.811
	(0.556)	(0.618)	(0.585)	(0.669)
Cons	-0.834	0.626	0.907	0.780
	(0.556)	(0.645)	(0.618)	(0.663)
F-Statistic	5.65***	4.66***	18.03***	17.85***
R^2	0.295	0.297	0.185	0.210
Observations	272	272	272	272

SMALL deals omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 244: Multiple Regression of CAARs on Seller/Target Degree of Relationship Incl. Controls

	AAR [0]	CAAR [-1;0]	CAAR [0;1]	CAAR [-1;1]
MEDIUM	1.289***	1.303**	2.481***	2.495***
	(0.473)	(0.567)	(0.688)	(0.747)
LARGE	6.412***	6.904***	4.771**	5.263***
	(1.842)	(2.005)	(2.011)	(1.945)
STOCK	-1.215*	-1.257*	-1.149*	-1.192*
	(0.624)	(0.667)	(0.683)	(0.682)
ROA	0.073*	0.083**	0.048	0.058
	(0.041)	(0.041)	(0.037)	(0.036)
QUICK	-0.255***	-0.291***	-0.084	-0.119*
	(0.062)	(0.080)	(0.057)	(0.063)
ZSCORE	0.120*	0.141	0.083	0.104
	(0.070)	(0.091)	(0.060)	(0.068)
AUSTRIA	-2.232***	-1.933***	-1.430***	-1.131
	(0.401)	(0.739)	(0.505)	(0.707)
SWITZERLAND	-0.220	-0.756	-0.009	0.546
	(0.493)	(0.527)	(0.562)	(0.614)
Cons	0.620	0.672	0.455	0.506
	(0.504)	(0.543)	(0.595)	(0.574)
F-Statistic	10.39***	4.14***	16.74***	16.57***
R^2	0.296	0.300	0.182	0.207
Observations	272	272	272	272

SMALL deals omitted

GERMANY omitted

*, **, *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses.

Table 245: Multiple Regression of CAARs on Seller Nation Incl. Controls